पं. रविशंकर शुक्ल विश्वविद्यालय
रायपुर (छत्तीसगढ़)

पाठ्यक्रम

बी.ए.-1 (कोड-101) B. A.-1 (Code-101)

बी.ए. क्लासिक्स-1 (कोड-061) B.A. CLASSICS-1 (Code-061)

परीक्षा : 2015

कुलसचिव पं. रविशंकर शुक्ल विश्वविद्यालय
रायपुर (छत्तीसगढ़) की ओर से

अधिकृत मुद्रक एवं प्रकाशक :
गीता पब्लिकेशन
महामाईपारा, रायपुर (छत्तीसगढ़)

INDEX

REVISED ORDINANCE NO.11

(As per State U.G.C. Scheme)

BACHELOR OF ARTS

1. The three year course have been broken up in to three Parts.

   Part-I Examination : at the end of the first year.

   Part-II Examination : at the end of the second year and

   Part-III Examination : at the end of the third year.

2. A candidate who after passing (10+2) or intermediate exami-nation of C.G. Board of Secondary Education, C.G. or any other examination recognised by the University or C.G. Board of Secondary Education as equivalent thereto, has attended a regular course of study in an affiliated college or in the Teaching Department of the University for one academic year shall be eligible for appearing at the B.A. Part-I examination.

3. A candidate who after passing B.A. Part-I examination of the University or any other examination recognised by the University as equivalent thereto has attended a regular course of study for one academic year in an affiliated college or in the Teaching Department of the University shall be eligible for appearing at the B.A. Part II Examination.

4. A candidate who after passing B.A. Part II examination of the University has completed a regular course of study for one academic year in an affiliated college or in the Teaching Department of the University shall be eligible for appearing at the B.A. Part-III examination.

5. Besides regular students, subject to their compliance with this ordinance, ex-students and non-collegiate candidates shall be eligible for admission to the examination as per provisions of Ordinance N. 6 relating to Examinations (General). Provided that non-collegiate candidates shall be permitted to offer only such subjects/papers as are taught to the regular students at any of the University Teaching Department or College.

6. Every candidate for the Bachelor of arts examination shall be examined in :

   A. Foundation Course :

      i) Group A - Hindi Language

      ii) Group B - English Language

   B. Three course subjects : One subject from any three group out of the followings six groups :

      1. Sociology / Ancient Indian Histroy / Anthropology

      2. Political Science/Home Science / Drawing & Painting / Vocational Course.

      3. Hindi Literature/ Sanskrit Literature/Urdu Literature/ Mathematics.

      4. Economics/Music/ Defence Studies/ Linguistics / नृत्य.

5. Philosophy/Psychology/ Geography/ Education/ Management.

6. History/English Literature/ Statistics.

7. Practicals (If Nece ssary) for each core subject.

7. Any candidate who has passed the B.A. examination of the University shall be allowed to present himself for examination in any of additional subjects prescribed for the B.A. exami-nation and not taken by him at the degree examination. Such candidate will have to first appear and pass the B.A. Part I examination in the subject which he proposes to offer and then the B.A. Part II and Part III examination in the same subject. Successfull candidate will be given a certificate to that effect.

8. In order to pass at any part of the three year degree course examination, an examinee must obtain not less than 33% of the total makrs in each subject/group of subjects. In subject/group of subjects, where both theory and practical examination are provided, an examinee must pass in both theory and practical parts of the examination separately.

9. Candidate will have to pass separately at the Part-I, Part II and part-III examination. No division shall be assigned on the result of the Part-I and Part-II examination. In determining the divison of the Final examination, total marks obtained by the examinees, in their Part-I, Part-II and Part-III examination in the aggregate shall be taken into account. Candidate will not be allowed to change subjects after passing Part I Examination.

Provided in case of candidate who has passed the examination through the supplementary examination having failed in one subject only the total aggregate marks being carried over for determining the division shall include the actual marks obtained in the subject in which he appeared at the supplementary examination.

10. Successful exminees at the Part-III examination obtaining 60% or more marks shall be placed in the First division, those obtaining less than 60% but not less than 45% marks in the Second division and other successful examinees in the third division.

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SCHEME OF EXAMINATION

	Subject	Paper	Max. Marks	Min. Marks
	(i) Environmental Studies		75	33
	Fild Work		25	
A.	Foundation Course			
	(i) Hindi Language - I		75	26
	(ii) English Language - II		75	26
B.	Three Core Subject :			
	1. Hindi Literature	I	75	50
		I	75	
	2. Sanskrit Literature	I	75	50
		I	75	
	3. English Literature	I	75	50
		I	75	
	4. Philosophy	I	75	50
		I	75	
	5. Economics	I	75	50
		I	75	
	6. Political Science	I	75	50
		I	75	
	7. History	I	75	50
		I	75	
	8. Ancient Indian History	I	75	50
	Culture & Archaeology	I	75	
	9. Sociology	I	75	50
		I	75	
	10. Geography	I	50	33
		I	50	
		Practical	50	17
	11. Mathematics	I	50	
		I	50	50
		III	50	
	12. Statistics	I	50	33
		I	50	
		Practical	50	17

	Subject	Paper	Max. Marks	Min. Marks
13.	Anthropology	I	50	33
		I	50	
		Practical	50	17
14.	Linguistics	I	75	50
		I	75	
15.	Music	I	50	33
		I	50	
		Practical	50	17
16.	Home Science	I	50	33
		I	50	
		Practical	50	17
17.	Education	I	75	50
		I	75	
18.	Psychology	I	50	33
		I	50	
		Practical	50	17
19.	Management	I	75	50
		I	75	
20.	Defence Studies	I	50	33
		I	50	
		Practical	50	17
21.	Urdu	I	75	50
		I	75	
22.	Dance	I	50	33
		I	50	
		Practical	50	17

USE OF CALCULATORS

The Students of Degree/P.G. Classes will be permitted to use of Calculators in the examination hall from annual 1986 examnination on the following conditions as per decision of the standing committee of the Academic Council at its meeting held on 31-1-1986-

1. Student will bring their own Calculators.
2. Calculators will not be provided either by the university or examination centres.
3. Calculators with, memory and following variables be permitted +, -, x, ¸ square, reciprocal, expotentials log, square root, trignometric functions, wize, sine, cosine, tangent etc. factiorial summation, xy, yx and in the light of objective approval of merits and demerits of the viva only will be allowed.

Part - I

SYLLABUS FOR ENVIRONMENTAL STUDIES AND HUMAN RIGHTS

(Paper code-0828)

MM. 75

इन्वारमेंटल साईंसेस के पाठ्यक्रम को स्नातक स्तर भाग–एक की कक्षाओं में विश्वविद्यालय अनुदान आयोग के निर्देशानुसार अनिवार्य रूप से शिक्षा सत्र 2003–2004 (परीक्षा 2004) से प्रभावशील किया गया है। स्वशासी महाविद्यालयों द्वारा भी अनिवार्य रूप से अंगीकृत किया जाएगा।

भाग 1, 2 एवं 3 में से किसी भी वर्ष में पर्यावरण प्रश्न–पत्र उत्तीर्ण करना अनिवार्य है। तभी उपाधि प्रदाय योग्य होगी।

पाठ्यक्रम 100 अंकों का होगा, जिसमें से 75 अंक सैद्धांतिक प्रश्नों पर होंगे एवं 25 अंक क्षेत्रीय कार्य (Field Work) पर्यावरण पर होंगे।

सैद्धांतिक प्रश्नों पर अंक – 75 (सभी प्रश्न इकाई आधार पर रहेंगे जिसमें विकल्प रहेगा)

(अ) लघु प्रश्नोंत्तर – 25 अंक

(ब) निबंधात्मक – 50 अंक

Field Work – 25 अंकों का मूल्यांकन आंतरिक मूल्यांकन पद्धति से कर विश्वविद्यालय को प्रेषित किया जावेगा। अभिलेखों की प्रायोगिक उत्तर पुस्तिकाओं के समान संबंधित महाविद्यालयों द्वारा सुरक्षित रखेंगे।

उपरोक्त पाठ्यक्रम से संबंधित परीक्षा का आयोजन वार्षिक परीक्षा के साथ किया जाएगा।

पर्यावरण विज्ञान विषय अनिवार्य विषय है, जिसमें अनुत्तीर्ण होने पर स्नातक स्तर भाग–एक के छात्र/छात्राओं को एक अन्य विषय के साथ पूरक की पात्रता होगी। पर्यावरण विज्ञान के

सैद्धांतिक एवं फील्ड वर्क के संयुक्त रूप से 33% (तैंतीस प्रतिशत) अंक उत्तीर्ण होने के लिए अनिवार्य होंगे।

स्नातक स्तर भाग–एक के समस्त नियमित/भूतपूर्व/अमहाविद्यालयीन छात्र/छात्राओं को अपना फील्ड वर्क सैद्धांतिक परीक्षा की समाप्ति के पश्चात् 10 (दस) दिनों के भीतर संबंधित महाविद्यालय/परीक्षा केन्द्र में जमा करेंगे एवं महाविद्यालय के प्राचार्य/केन्द्र अधिक्षक, परीक्षकों की नियुक्ति के लिए अधिकृत रहेंगे तथा फील्ड वर्क जमा होने के सात दिनों के भीतर प्राप्त अंक विश्वविद्यालय को भेजेंगे।

UNIT-I THE MULTI DISCIPLINARY NATURE OF ENVIRONMENTAL STUDIES

Definition, Scope and Importance

Natural Resources:

Renewable and Nonrenewable Resources

(a) Forest resources: Use and over-exploitation, deforestation, Timber extraction, mining, dams and their effects on forests and tribal people and relevant forest Act.

(b) Water resources: Use and over-utilization of surface and ground water, floods drought, conflicts over water, dams benefits and problems and relevant Act.

(c) Mineral resources: Use and exploitation, environmental effects of extracting and using mineral resources.

(d) food resources: World food problems, changes caused by agriculture and overgrazing, effects of modern agriculture, fertilizer-pesticide problems, water logging , salinity.

(e) Energy resources: Growing energy needs, renewable and non-renewable energy sources, use of alternate energy sources.

(f) Land resources: Land as a resource, land degradation, man induced landslides soil erosion and desertification.

(12 Lecture)

UNIT-II ECOSYSTEM

(a) Concept, Structure and Function of and ecosystem

- Producers, consumers and decomposers.
- Energy flow in the ecosystem

- Ecological succession
- Food chains, food webs and ecological pyramids.
- Introduction, Types, Characteristics Features, Structure and Function of Forest, Grass, Desert and Aquatic Ecosystem.

(b) Biodiversity and its Conservation

- Introduction - Definition: genetic. species and ecosystem diversity
- Bio-geographical classification of India.
- Value of biodiversity: Consumptive use. productive use, social ethics, aesthetic and option values.
- Biodiversity at global, National and local levels.
- India as mega-diversity nation.
- Hot spots of biodiversity.
- Threats to biodiversity: habitat loss, poaching of wildlife, man-wild life conflict.
- Endangered and endemic species of India.
- Conservation of biodiversity: In situ and Ex-situ conservation of biodiversity.

(12 Lecture)

UNIT- III

(a) Causes, effect and control measures of

- Air water, soil, marine, noise, nuclear pollution and Human population.
- Solid waste management: Causes, effects and control measures of urban and industrial wastes.
- Role of an individual in prevention of pollution.
- Disaster Management : floods, earthquake, cyclone and landslides.

(12 Lecture)

(b) Environmental Management

- From Unsustainable to sustainable development.
- Urban problems related to energy.

- Water conservation, rain water harvesting, watershed management.
- Resettlement and rehabilitation of people, its problems and concerns.
- Environmental ethics: Issues and possible solutions.
- Climate change, global warming, acid rain, ozone layer depletion, nuclear accidents and holocaust.
- Wasteland reclamation
- Environment protection Act: Issues involved in enforcement of environmental legislation.
- Role of Information Technology in Environment and Human Health.

UNIT- IV

General background and historical perspective- Historical development and concept of Human Rights, Meaning and definition of Human Rights, Kind and Classification of Human Rights.

Protection of Human Rights under the UNO Charter, protection of Human Rights under the Universal Declaration of Human Rights, 1948.

Convention on the Elimination of all forms of Discrimination against women.

Convention on the Rights of the Child, 1989.

UNIT- V

Impact of Human Rights norms in India, Human Rights under the Constitution of India, Fundamental Rights under the Constitution of India, Directive Principles of State policy under the Constitution of India, Enforcement of Human Rights in India.

Protection of Human Rights under the Human Rights Act, 1993- National Human Rights Commission, State Human Rights Commission and Human Rights court in India.

Fundamental Duties under the Constitution of India.

Reference/ Books Recommended

1. SK Kapoor- Human rights under International Law and Indian Law.
2. HO Agrawal- Internation Law and Human Rights
3. एस.के. कपूर – मानव अधिकार
4. जे.एन. पान्डेय – भारत का संविधान
5. एम.डी. चतुर्वेदी – भारत का संविधान
6. J.N.Pandey - Constitutional Law of India
7. Agarwal K.C. 2001 Environmental Biology, Nidi pub. Ltd. Bikaner

8. Bharucha Erach, the Biodiversity of India, Mapin pub. Ltd. Ahmedabad 380013, India, Email: mapin@icenet.net(R)
9. Bruinner R.C. 1989, Hazardous Waste Incineration. McGraw Hill Inc.480p
10. Clark R.S. Marine pollution, Clanderson press Oxford (TB)
11. Cuningham, W.P.Cooper. T.H.Gorhani, E & Hepworth. M.T,200
12. Dr. A.K.- Environmental Chemistry. Wiley Eastern Ltd.
13. Down to Earth, Center for Science and Environment (R)
14. Gloick, H.P. 1993 Water in crisis. pacific institute for studies in Deve. Environment & Security. Stockholm Eng. Institute. Oxford University, Press. m 473p.
15. Hawkins R.E. Encyclopedia of Indian Natural History, Bombay Natural History Society, Mumbai (R)
16. Heywood, V.H. & Watson, T.T.1995 Global Biodiversity Assessment, Cambridge Univ. Press 1140p
17. Jadhav H. & Bhosale, V.H. 1995 Environmental Protection and Law. Himalaya pub. House, Delhi 284p
18. Mckinney M.L.& School R.M.1996, environmental Science systems & solutions, web enhanced edition, 639p
19. Mhadkar A.K. Matter Hazardous, Techno-Science publication(TB)
20. Miller T.G.Jr. Environment Science, Wadsworth publication co. (TB)
21. Odum E.P.1971, Fundamentals of Ecology, W.B. Saunders Co. USA,574p
22. Rao M.N. & Datta, A.K. 1987, Waste water treatment. Oxford & IBH pub.co.pvt. Ltd 345p
23. Sharma B.K. 2001, Environmental chemistry, Goel pub. House, Meerut
24. Survey of the Environment, The Hidu(M)
25. Townsend C. Harper J. And Michael Begon, Essentials of Ecology, Blackwell Science(TB)
26. Trivedi R.K.Handbook of Environment Laws, Rules, Guidlines, Compliances and Standards, Vol land II, Environment Media(R)
27. Trivedi R.K. and P.K. Goel, Introduction to air pollution, Techno-Science publication (TB)
28. Wanger K.D.1998, Environmental Management. W.B. Saunders Co. Philadelphia, USA 499p

आधार पाठ्यक्रम

प्रश्न पत्र - प्रथम

हिन्दी भाषा (पेपर कोड-0101)

पूर्णांक - 75

नोट :

1. प्रश्न पत्र 75 अंक का होगा ।
2. प्रश्न पत्र अनिवार्य होगा ।
4. इसके अंक श्रेणी निर्धारण के लिए जोड़े जावेंगे ।
5. प्रत्येक इकाई के अंक समान होंगे ।

पाठ्य विषय -

इकाई-1 पल्लवन, पत्राचार तथा अनुवाद एवं पारिभाषिक शब्दावली ।

इकाई-2 मुहावरे-लोकोक्तियाँ, शब्दशुद्धि, वाक्य शुद्धि, शब्द ज्ञान-पर्यायवाची, विलोम, अनेकार्थी, समश्रुत (समानोचरित) अनेक शब्दों के लिए एक शब्द ।

इकाई-3 देवनागरी लिपि की विशेषता, देवनागरी लिपि एवं वर्तनी का मानक रूप ।

इकाई-4 कम्प्यूटर में हिन्दी का अनुप्रयोग, हिन्दी में पदनाम ।

इकाई-5 हिन्दी अपठित, संक्षेपण, हिन्दी में संक्षिप्तीकरण ।

पाठ्य क्रम के लिए पुस्तकें -

1. भारतीयता के स्वर साधन धनंजय वर्मा - म. प्र. ग्रंथ अकादमी ।
2. नागरी लिपि और हिन्दी - अनंत चौधरी - ग्रंथ अकादमी पटना ।
3. कम्प्यूटर और हिन्दी - हरिमोहन - तक्षशिला प्रकाशन, दिल्ली ।

FOUNDATION COURSE

PAPER - II

ENGLISH LANGUAGE (Paper Code-0102)

M.M. 75

UNIT-1 **Basic Language skills : Grammar and Usage.**

Grammar and Vocabulary based on the prescribed text.
To be assessed by objective / multiple choice tests.

(Grammar - 20 Marks
Vocabulary - 15 Marks)

UNIT-2 **Comprehension of an unseen passage.** 05

This should imply not only (a) an understanding of the passage in question, but also (b) a grasp of general language skills and issues with reference to words and usage within the passage and (c) the Power of short independent composition based on themes and issues raised in the passage.

To be assessed by both objective multiple choice and short answer type tests.

UNIT-3 **Composition** : Paragraph writing 10

UNIT-4 **Letter writing** (The formal and one Informal) 10

Two letters to be attempted of 5 marks each. One formal and one informal.

UNIT-5 Texts : 15

Short prose pieces (Fiction and not fiction) short poems, the pieces should cover a range of authors, subjects and contexts. With poetry if may sometimes be advisable to include pieces from earlier periods, which are often simpler than modern examples. In all cases, the language should be accessible (with a minimum of explanation and reference to standard dictionaries) to the general body of students schooled in the medium of an Indian language.

Students should be able to grasp the contents of each plece; explain specific words, phrases and allusions; and comment on general points of narrative or argument. Formal Principles of Literary criticism should not be taken up at this stage.

To be assessed by five short answers of three marks each.

BOOKS PRESCRIBED -

English Language and Indian Culture - Published by M.P. Hindi Granth Academy Bhopal.

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हिन्दी साहित्य

प्रथम - प्रश्न पत्र

(प्राचीन हिन्दी काव्य) अंक 75

(पेपर कोड-0103)

उद्देश्य एवं प्रस्तावना-

प्राचीन से तात्पर्य है - आधुनिक काल से पूर्व का काल । सही अर्थ में हिन्दी भाषा और साहित्य का विकास आदिकाल से शुरू होता है । इसमें धार्मिक तथा ऐतिहासिक दो प्रकार का साहित्य मिलता है, जो प्रबंध, मुक्तक, रासो, फागु, चरित, सुभाषित आदि विविध । काव्यरूपों में अभिव्यंजित है । मध्यकालीन साहित्य की पृष्ठभूमि के रूप में इसे प्रतिष्ठापित किया जाता है ।

मध्यकालीन काव्य में भक्तिकाव्य, जहां लोक जागरण को स्वर देने वाला है, वहीं रीतिकाल अपने लौकिक-श्रृंगारिका, परिदृश्य में तत्कालीन सामाजिक, सांस्कृतिक, राजनीतिक स्थितियों को बेलौस अभिव्यंजित करता है । अत: भाषा, संस्कृति, विचार, मानवता, काव्यत्व, काव्यरूपता, लौकिकता-पारलौकिकता, आदि दृष्टियों से इसका अध्ययन अत्यावश्यक है ।

पाठ्य विषय -

1. कबीर (कबीर - कांतिकुमार जैन) प्रारंभिक 50 साखियाँ)
2. जायसी-संक्षिप्त पद्मावत-श्यामसुंदर दास) नागमती वियोग वर्णन
3. सूर (भ्रमर गीत सार - सं. आचार्य रामचन्द्र शुक्ल) प्रारंभिक 25 पद
4. तुलसी - ''रामचरित मानस'' के अयोध्याकाण्ड से प्रारंभिक 25 दोहे चौपाई, छंद सहित ।
5. घनानन्द (घनानन्द - सं. विश्वनाथ प्रसाद मिश्र) प्रारंभिक 25 छन्द द्रुत पाठ हेतु निम्नांकित तीन कवियों का अध्ययन किया जावेगा - जिसमें से किन्हीं दो पर लघूत्तरीय प्रश्न पूछे जायेंगे -

   1. विद्यापति
   2. रहीम
   3. रसखान

अंक विभाजन-

1.	3 व्याख्याएँ	30 प्रतिशत
2.	आलोचनात्मक प्रश्न	30 प्रतिशत
3.	लघूत्तरीय प्रश्न	20 प्रतिशत
4.	वस्तुनिष्ठ प्रश्न	20 प्रतिशत

हिन्दी साहित्य

द्वितीय - प्रश्न पत्र

हिन्दी कथा साहित्य

पूर्णांक 75

(पेपर कोड-0104)

उद्देश्य एवं प्रस्तावना-

गद्य की प्रमुख विधाओं का इतना द्रुत विकास इनकी लोकप्रियता का प्रमाण प्रस्तुत करता है । इसमें आधुनिक जीवन, अपनी विविध कवियों के साथ यथार्थ रूप में अभिव्यंजित हुआ है । जीवन की अनुभूतियाँ, संवेदनाओं तथा विविध परिस्थितियों के साक्षात्कार के लिए इनका अध्ययन सर्वथा अपेक्षित है ।

पाठ्य विषय -

व्याख्या एवं आलोचनात्मक प्रश्नों के लिए एक उपन्यास एवं आठ कहानीकारों की एक-एक प्रतिनिधि कहानी का अध्ययन आवश्यक है ।

उपन्यास	1.	गबन	-	प्रेमचंद
कहानी	1.	प्रेमचंद	-	कफन
	2.	जयशंकर प्रसाद	-	आकाश दीप
	3.	यशपाल	-	परदा
	4.	फणीश्वरनाथ रेणु	-	ठेस
	5.	मोहन राकेश	-	मलवे का मालिक
	6.	भीष्म साहनी	-	चीफ की दावत
	7.	राजेन्द्र यादव	-	बिरादरी बाहर
	8.	रागेय राघव	-	गदल

द्रुत पाठ के लिए निम्नांकित तीन कथाकारों का अध्ययन अपेक्षित है, जिनमें से किन्हीं दो पर लघूत्तरीय प्रश्न पूछे जावेंगे -

1. उपेन्द्रनाथ अश्क, 2. बाल शौरि रेड्डी 3. शिवानी

अंक विभाजन -3/ व्याख्याएँ 30 प्रतिशत

2/ आलोचनात्मक प्रश्न	30 प्रतिशत
5/ लघुत्तरीय प्रश्न	20 प्रतिशत
20/ वस्तुनिष्ठ प्रश्न	20 प्रतिशत

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B. A. Part-I

ENGLISH LITERATURE

There will be two literatures in English - 1550-1750 Papers, each carrying maximum marks - 75. Nine questions are to be attempted in each peper. Each question carries the marks according to the scheme mentloned in each paper.

ENGLISH LITERATURE

PAPER - I

LITERATURE IN ENGLISH - 1550-1750 (Paper Code-0105) M.M. 75

(i) Unit-1 of annotation is compulsery, and passages to be set from Units (II to V), atleast one from each unit, 3 to be attempted. 3x5 = 15

(ii) Multiple choice/objective type questions to be set unit vii, 15 to be set 10 be attempted. 1x1 = 10

(iii) From Unit-II to VI-8 questions to be setatleast one from each unit-5 to be attempted. 10x5 = 50

Word Limit for each answer 300 to 400 words.

UNIT-1 ANNOTATIONS.

UNIT-2 POETRY

(a) Shakespeare - Sonnet No. 1 From Fairest Creatures, Sonnet No. 154., The little Love God.

(b) Milton - How Soon Hath Time the Subtle Theif of Youth ...

(c) John Donne - Sweetest Love I Don't go, This is my play's Last Scene.

UNIT-3 POETRY

(a) John Dryden - Portrait of Shadwell.

(b) Alexander - Pope- From An Essy on Criticism (True case in writing ....) and the world's Victor Stood subdned by sound.

UNIT-4 PROSE

(a) Bacon Of Studies, Of Health, Of Friendship

(b) Addison-Sir Roger at Home

(c) Steele Of the Club.

UNIT-5 DRAMA

Shake spear - The Merchant of Venice

UNIT-6 Fiction - Swift - The Battle of the Books.

UNIT-7 Historical and Literary Topics

(i) The Renaissance.

(ii) Humanism.

(iii) Reformation.

(iv) The Restoration.

(v) The Earlier Drama

(vi) Petrachism and the Sonnet Cycle.

(vii) The Influence of Seneca and Classical Dramatic Theory

(viii) The Elizabethan and Jacobean stage.

(ix) Restoration Drama

(x) The Rise of Periodcal Essay

BOOKS RECOMMENDED for Unit VII in Papers I and II

1. Edward Albert - A History of English Literature.
2. Ifor Evans - A short History of English Literature.
3. Hudson - An Outline History of English Literature.

Both the papers of B. A. Part-I are included in the anthologies prescribed in the previous syllabus for B. A. Part-I and B. A. Part - II

ENGLISH LITERATURE

PAPER - II

LITERATURE IN ENGLISH FROM 1750-1900 (Paper Code-0106)

Note- (i) Unit-1. of annotation is compulsory, 6 passages be set from Units (II to IV) atleast one from each unit, 3 to be attempted. 3x5 = 15

(ii) Multiple Choice/objective type questions to be set from unit-VII, 25 to be set 10 to be attempted. 1x10 = 10

(iii) From Units 11 to VI-8 questions to be set atleast one from each Unit - 5 to be attempted. 10x5 = 50

Word Limit for each answer 300 to 400 words.

UNIT-1 ANNOTATIONS

UNIT-2 POETRY -

(a) Blake - Tiger, Tiger Burning Bright.
(b) Wordsworth - Daffodils and Solitary Reaper.
(c) Coleridge - Frost at Midnight.

UNIT-3 POETRY-

(a) Shelley - Ode to a skylark.
(b) Keats - Ode to Autumn.
(c) Tennyson - Crossing the Bar.
(d) Browing - Prospice.

UNIT-4 PROSE

(a) Lamb - Dream Children : A Reverie
(b) Hazlit - On Actors and Acting

UNIT-5 Fiction Jane Austen - Pride and prejudice.

UNIT-6 Fiction Charles Dickens - David Copperfield

UNIT-7 Historical and Literary Topics.

(1) The Reform Acts.
(2) The Impact of Industrial ization.
(3) Colonialism And Imperialism.
(4) Scientific the ughts and discoveries.
(5) Faith and Doubt.
(6) Classical and Romantic Concepts of Imagination.
(7) Varieties of Romantic and Victorian Poetry.
(8) The Victorian Novel.
(9) Realism and the Novel.
(10) Aestlheticism.

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PSYCHOLOGY

Paper	Name of the Paper	Max. Marks	Duration
I	Basic Psychological Processes	50	3 hrs.
II.	Psychopathology	50	3 hrs.
III.	Practical	50	4 Hrs.

PAPER - I

BASIC PSYCHOLOGICAL PROCESSES (Paper Code-0119) M.M. 50

This Paper consists of 5 units.

From each unit a minimum of two questions would be set and condidates would be required to attempt one from each unit.

UNIT-1 Introduction - Definition and goals of psychology; behaviouristic, cognitive and humanistic; cross-cultural prespective; Methods : Experimental, observation, interview, questionnaire and case study.

UNIT-2 Biological bases of Bchaviours : Genes and Behavour, the nervous System : C.N.S., A.N.S. and peripheral Nervous system; Glands and Harmones, Emotions : Expression and control.

UNIT-3 Sensory Perceptual Processes - Nature and types of sensation and Percoptron; Attentional Processes : Definition, types and determinants; Principles of Percoptual organisation; Thinking process : Nature and types.

UNIT-4 Learning and Memory : Classical and Operant conditioning - Basic Processes ; verbal and observational learning; memory : Sensory, S-T.M., L.T.M. Forgetting : Process and theories.

UNIT-5 Cognitive and non cognitive processes : Intelligence : Nature and types; motivation : Biogenic and Sociogenic motives; Personality : nature and determinants, Approaches to study personality : trait and types, Assessment of Personality.

BASIC BOOKS :

1. सामान्य मनोविज्ञान – अरूण कुमार सिंह, बनारसीदास प्रकाशन
2. प्रीति वर्मा – आधुनिक सामान्य मनोविज्ञान
3. Balon R.A., Barne D.A. - Understanding behaviour Tokyo Halt Sounders
4. Zimbardo P.G. & Walser AL 1997 - Psychology New York Haper Collings college publishers
5. Lefton, L. A. 1985 - Psychology Bosten-Allyn & Baron

PAPER II

PSYCHOPATHOLOGY (Paper Code-0120) M.M. 50

This paper consists of 5 units.

From each unit a minimum of two questions would be set and condidates would be required to attempt one from each unit.

UNIT-1 Introduction : The concept of normality and abnormality; Models of Psychopathology : Psychodynanamic, Behavioral and cognitive.

UNIT-2 Assessment of Psychopathology :- Diagnostic tests, Rating scales, clinical interview, projective tests.

UNIT-3 Anxiety Disorders : Panic disorder, Phobias, obsessive complusive disorder, anxiety disorder, Dissociative disorder.

UNIT-4 Mood and personality disorders - Manice - depressive episode, paranoid, schizoid, Dependent Personality, Dysthymia, obesity.

UNIT-5 Management of Psychopathology : Stress management; Medico and Psychosocial Therapy : Shock therapy, Psychoanalysis, Group therapy and Behaviour therapy.

BOOKS -

1. Lamm, A. (1997) - Lamm, A (1997) Introduction to psychopathology, Sage, N.Y.
2. Buss, A. H. (1999) - Psychopathology N. Y. John Wilcy
3- ykHk fl;g rFkk frokjh & vlkekU; eukfoKku & vkxjk foukn iLrd Hk.Mkj
4- dfiy ,p-d- & vlkekU; eukfoKku & gji;lkn Hkkx;o] vkxjk

PAPER - III
PRACTICALS

M.M. 50

Note : This paper consists of two parts :

(a) Comprises of laboratory Experiments.

(b) Comprises of Psychological testing and understanding of self and others.

(a) **Experiments -** (any five of the following) :-

(i) Effect of set on perception
(ii) Effect of frustration on performance.
(iii) Division of Attention.
(iv) Learning curve/Serial position curve.
(v) Retroactive inhibition.
(vi) S.T.M.
(vii) Concept formation.
(viii) Judgement of emotious through facial expressions.

(b) Psychological testing and understanding of self and others (any four of the following tests and maintenance of anecdotal records)

(i) Verbal/nonverbal intellegence test/performance tests.
(ii) E.P.I.
(iii) Anxiety test.
(iv) Depression Scale
(v) Adjustment inventory.
(vi) Achievement motivation.
(vii) Stress tolerance test.

Anecdotal record : Each Student will be required to observe behaviour of pupil in different selting and seleet an anecdote to understand, judge and narrate it as objectively as possible, so as to reveal his/her psychological insight existing in that anecdotal behaviour. This record constitutes a part of psychological assessment of the students. Introduction to measures of central tendency data in ungroted Graphical presentation of data.

DISTRIBUTION OF MARKS

A. Conduction of psychological experiment and reporting - 15 marks
B. Administration of one psychological test and reporting - 15 marks
C. Evalution of Practical notebook and Anecdotal record - 10 marks
D. Viva - Voce - 10 marks

Note : No condidate will be allowed to appear in the practical examination unless his/her day to day practical work and the report are found satisfactory.

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इतिहास

प्रश्न पत्र - प्रथम

(भारत का इतिहास प्रारम्भ से 1206 ई. तक)

HISTORY OF INDIA FROM THE BEGINNING TO 1206 A.D.

(पेपर कोड-0109)

उद्देश्य - इस पाठ्यक्रम का उद्देश्य विद्यार्थियों को प्राचीन भारत के इतिहास के प्रमुख राजनीतिक, सामाजिक, आर्थिक एवं सांस्कृतिक पक्षों से परिचित कराना है जो कि यू.जी.सी. मानदंडों के अनुरूप है ।

इकाई-1
1. भारतीय इतिहास के स्त्रोतों का सर्वेक्षण
2. भारत की भौगोलिक विशेषताएँ
3. प्रागैतिहासिक - पूर्व पाषाण से नवपाषाण युग तक सभ्यता एवं संस्कृति
4. हड़प्पा सभ्यता - निर्माता, प्रसार, नगर योजना, राजनीतिक, सामाजिक, आर्थिक संरचना

इकाई-2
1. ऋगवैदिक काल- राजनीतिक, आर्थिक, धार्मिक
2. उत्तर वैदिक काल - राजनीतिक, सामाजिक, आर्थिक, धार्मिक
3. महाकाव्य काल - सभ्यता एवं संस्कृति
4. ईसा पूर्व छठवी शताब्दी का भारत तथा बौद्ध एवं जैन धर्म

इकाई-3
1. मगध साम्राज्य का उदय
2. सिकन्दर का आक्रमण और उसका प्रभाव
3. मौर्य साम्राज्य की स्थापना - चन्द्रगुप्त मौर्य एवं अशोक - अशोक के धम्म
4. मौर्यकालीन प्रशासन अर्थव्यवस्था एवं कला तथा संस्कृति

इकाई-4
1. मौर्योत्तरकाल - शुंग, कुषाण एवं सातवाहन
2. संगमयुग - साहित्य, संस्कृति
3. चौल एवं पाण्डय
4. गुप्त साम्राज्य - प्रशासन, आर्थिक, सामाजिक, सांस्कृतिक दशा

इकाई-5
1. पल्लव, चालुक्य, वर्धन, वाकाटक, गुर्जर-प्रतिहार, पाल, सेन, राष्ट्रकूट
2. भारत का दक्षिण पूर्व एशिया एवं श्रीलंका से सम्बन्ध
3. मोहम्मद बिन कासिम, गजनवी एवं गोरी का आक्रमण
4. नारी की स्थिति - विवाह, सती प्रथा, परदा प्रथा, देवदासी प्रथा, जाति व्यवस्था, दास प्रथा

संदर्भ ग्रन्थ -

1. रतिभानु सिंह नाहर - प्राचीन भारतीय इतिहास एवं संस्कृति
2. शांता शुक्ला - भारत का राजनीतिक इतिहास (राजपूत कालीन भारत)
3. द्विजेन्द्र नारायण एवं श्रीमाली - प्राचीन भारत
4. ओम प्रकाश - प्राचीन भारत
5. बी.एन. लूनिया - प्राचीन भारतीय संस्कृति
6. एस.आर. शर्मा - प्राचीन भारत - प्रगैतिहासिक युग से 1200 ई. तक
7. K.L. Khurana - Ancient India from Earliest Time to 1206 A.D.
8. K.L. Khurana - History of India from Earliest Time to 1526 A.D.

9. Vincent Smith - Oxford History of India.
10. भार्गव – प्राचीन भारत
11. L. Prasad - Ancient India - Indius Volley Civilization to 1200 A.D.

इतिहास

प्रश्न पत्र - द्वितीय

विश्व का इतिहास (1453 से 1789 ई. तक)

(पेपर कोड-0110)

इकाई-1
1. सामन्तवाद का पतन एवं आधुनिक युग का प्रारम्भ
2. पुनर्जागरण
3. धर्म सुधार आन्दोलन
4. प्रति धर्म सुधार आन्दोलन

इकाई-2
1. तीस वर्षीय कारण, परिणाम तथा प्रभाव
2. राष्ट्रीय राज्यों का उदय स्पेन, फ्रांस
3. राष्ट्रीय राज्यों का उदय. इंग्लैण्ड, रूस
4. पोलैण्ड का विभाजन

इकाई-3
1. अधुनिक पाश्चात्य जगत के आर्थिक आधार
2. वाणिज्यवाद एवं व्यापारिक क्रान्ति
3. औद्योगिक क्रान्ति
4. उपनिवेशवाद का प्रारम्भ

इकाई-4
1. इग्लैण्ड में गृह युद्ध : घटनाएं
2. इग्लैण्ड में गृह युद्ध : कारण एवं परिणाम
3. गौरव पूर्ण क्रान्ति (1688)
4. क्रेमलीन का शासन

इकाई-5
1. लुई चतुर्दश - गृह नीति
2. लुई चतुर्दश - विदेश नीति
3. अमेरिका का स्वतंत्रता संग्राम
4. फ्रांस की क्रान्ति के कारण एवं नेशनल असेम्बली

संदर्भ ग्रंथ -

1. बी. एन. मेहता- अर्वाचीन यूरोपढ़
2. बी.आई. पाल – आधुनिक यूरोप
3. K.L. Khurana - History of Modern World.
4. Khurana And Sharma - Modern Europe 1453-1789 A.D.

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ECONOMICS

PAPER - I

MICRO ECONOMICS

(Paper Code-0111)

UNIT-1 Introduction - Definitions Nature and scope of Economics, Methodology in Economics. Utility - Cardinal and Ordinal approaches, Indifference curve, Consumer's equilibrium (Hicks and slutsky), Giffin goods, Compensated demand, Demand - Law of Demand, Elasticity of demand - Price, income and cross, elasticity Consumer's surplus, Engel curve.

UNIT-2 Theory of production and cost - Production decision, Production function, Iso-quant, Factor substitution, Law of variable proportions, Returns to scale, Economies of scale, Different concepts of cost and their interrelation, Equilibrium of the firm, expansion path.

UNIT-3 Market structure-perfect and imperfect markets, Equilibrium of a firm-Perfect competition, Monopoly and price discrimination, Measure of monopoly power, Monopolistic competition, Duopoly, Oligopoly, Taxation and equilibrium of a firm, Notion of controlled and administered prices.

UNIT-4 Factor pricing-Marginal productivity theory of distribution, Theories of wage determination, wages and collective bargaining, wage differentials, Rent - Scarcity Rent, differential rent, Quasi rent, Modern Rent Theroy, Interest Classical and Keynesian Theories, Modern Theory, Profits - Innovation, Risk bearing and Uncertainty theories.

UNIT-5 Wel fare economics - Problems in measuring welfare, Classical welfare economics, Pareto's criteria, value judgement, Concept of a social welfare function, Compensation principle - Kaldor, Hicks.

BASIC READING LIST -

1. Bach, G. L. (1977) Economics, Prentice Hall of India, New Delhi.
2. Gauld, J.P. and Edward P. L. (1996), Microeconomic Theory, Richard lrwin, Homewood.
3. Henderson J. and R. E. Quandt (1980), Microeconomic Theory : A Mathematical Approach, McGraw Hill, New Delhi.
4. Heathfield and Wibe (1987), An Introduction to Cost and Production Functions, Macmillan. London.
5. Koutsoyiannis, A. (1990), Modern Microeconomics, Macmillan.
6. Lipsey, R. G. and K. A. Chrystal (1999) Principles of Economics (9th Edition), Oxford University Press, Oxford.

PAPER - II

INDIAN ECONOMY

(Paper Code-0112)

UNIT-1 Towards a Market Economy - Changes in the land system. Commercialization of agriculture, Policy of discriminating protection and Industrial development, Monetary and currency developments, Central and Commercial Banking developments.

Indian Economy at the Time of Independence, Backward economy, Stagnant economy, Other salient features, planning exercises in India - National Planning Committee, Bombay Plan, People's Plan. Gandhian Plan, The Planning Commission.

UNIT-2 Structure of Indian Economy - Basic features, Natural resources - Land, water and forest resources, Broad demographic features - Population size and qrowth rates, Sex composition, Rural - urban migration, Occupational distribution, Problem of over population, Population policy, Infra - structure development, National income.

UNIT-3 Planning in India - Objectives, Strategy; Broad achievements and failures, Current Five Year Plan - Objectives, Allcation and targets, New Economic Reforms - Liberalization, Privatization and globalization. Agriculture - Nature and importance, Trends in agricultural production and productivity, Factors determining productivity, Land reforms, New agricultural strategies and green revolution, Rural credit, Agricultural marketing.

UNIT-4 Industry - Industrial development during the planning period, Industrial policy of 1948, 1956, 1977 and 1991. Industrial licencing policy - MRTP Act, FERA and FEMA, Growth and problems of small scale industries, Role of public sector enterprises in India's industrilization.

UNIT-5 External Sector - Role of foreign trade, trends in exports and imports, Composition and direction of India's foreign trade, Balance of payments crisis and the new economic reforms - Export promotion measures and the new trade policies. Important areas of concern - Poverty, inequality and unemployment, Rising Prices.

BASIC READING LIST -

1. Datt, R. and K. P. M. Sudharam (2001) Indian Economy S. Chand & Company Ltd. New Delhi.
2. Dhingra, I. C. (2001), The Indian Economy E..nment and Policy, Sultan Chand & Sons. New Delhi.
3. Dutt. R. C. (1950) The Economic History of India Under Early British Rule. Low Price Publications. Delhi.
4. Kumar, D. (Ed.) (1982), The Cambondge Economic History of India, Volume II. 1957-1970. Oricnt Longman Ltd. Hyderabad.
5. Misra, S. K. and v. K. Puri (2001), Indian Economy - Its Development Experience, Himalaya Publication House, Mumbai.

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दर्शन शास्त्र

बी ए. प्रथम वर्ष दर्शन शास्त्र में दो प्रश्न पत्र (75 अंक) होंगे -

1. भारतीय दर्शन की रूपरेखा
2. पाश्चात्य दर्शन का इतिहास

प्रत्येक प्रश्न पत्र पाँच इकाईयों में विभाजित है । प्रत्येक इकाई में से एक प्रश्न हल करना अनिवार्य होगा ।

प्रथम - प्रश्न पत्र

भारतीय दर्शन की रूपरेखा

(पेपर कोड-0127)

इकाई-1 1. भारतीय दर्शन - परिचय एवं मुख्य विशेषताएँ,
2. वेद एवं उपनिषद् - ब्रह्म, आत्मा, ऋत्,
3. चार्वाक दर्शन - तत्व मीमांसा

इकाई-2 1. जैन दर्शन - स्याद्वाद, जीव,
2. बौद्ध दर्शन - चार आर्य सत्य, अनात्मवाद

इकाई-3 1. न्याय दर्शन - प्रमाण (प्रत्यक्ष एवं अनुमान), ईश्वर,
2. वैशेषिक दर्शन - परमाणुवाद

इकाई-4 1. सांख्य दर्शन - प्रकृति, पुरुष, विकासवाद,
2. योग दर्शन - अष्टांग योग

इकाई-5 1. शंकराचार्य का अद्वैत दर्शन - ब्रह्म, आत्मा, माया,
2. रामानुज का विशिष्टाद्वैत - ब्रह्म, जीव, भक्ति एवं प्रपत्ति

ENGLISH VERSION

QUTLINES OF INDIAN PHILOSOPHY

(Paper Code-0127)

UNIT-1 1 Indian Philosophy - Introduction and main characterestics
2 Veda and Upnisada - Brahman, Atman, Rta.
3 Carvaka Darskan - Metaphysics

UNIT-2 1 Jainism - Syadvada, Jiva.
2 Buddhism - Four noble truths, theory of No - Soul.

UNIT-3 1 Nyaya Darsana - Praimanas (Pratysa and Anuman), God
2 Vairesika Darsana - Paramanuvada.

UNIT-4 1 Sankhya Darsan - Prakriti, Purusa, Evolutionism
2 Yoga Darsan - Eightfold path

UNIT-5 1 Advaita Darsana of Sankaracharya - Brahman, Atma, Maya
2 Visistadvait - Brahman, Jiva, Bhakti and Prapafti

SUGGERTED BOOKS -

1	M. Hiriyanna	:	Out lines of Indian Philosophy
2	C. D. Sharma	:	A Critical Survey of Indian Philosophy
3.	दत्त एवं चटर्जी	:	भारतीय दर्शन का परिचय
4.	श्रीमती शोभा निगम	:	भारतीय दर्शन
5.	संगमलाल पांडेय	:	भारतीय दर्शन

6. बी. एन. सिंह : भारतीय दर्शन
7. सिंह एवं सिंह : भारतीय दर्शन

द्वितीय प्रश्न पत्र
पाश्चात्य दर्शन का इतिहास
(पेपर कोड-0128)

इकाई-1 1. पाश्चात्य दर्शन - परिचय
2. प्लेटो - प्रत्ययों का सिद्धांत
3. अरस्तू - कारणता का सिद्धांत

इकाई-2 1. थामस एक्वीनास - ईश्वर के अस्तित्व के प्रमाण
2. डेकार्ट - संदेहवादी पद्धति, आत्मा का अस्तित्व, द्वैतवाद (मैं सोचता हूँ अत: मैं हूँ) ।

इकाई-3 1. स्पिनोजा - द्रव्य, गुण, पर्याय
2. लाइन्निज - चिद्बिन्दुवाद

इकाई-4 1. लॉक - सहज प्रत्ययों का खंडन, द्रव्य : प्राथमिक और द्वैतयिक गुण
2. वर्कले - प्राथमिक और द्वैतयिक गुणों का खंडन, दृष्टि ही सृष्टि हैं ।

इकाई-5 1. ह्यूम - संस्कार और प्रत्यय संदेहवाद, आत्मा का खंडन
2. कांट - समीक्षावाद

ENGLISH VERSION
HISTORY OF WESTERN PHILOSOPHY
(Paper Code-0128)

UNIT-1 1 Western Philosophy - Introduction
2 Plato - Theory of Ideas
3 Aristotle - Theory of Causation

UNIT-2 1 st. Thomas Aquinas - Proos for the Existence of God
2 Descartes - Method of Doubt, Existence of Soul (Cogito ergo sum) Dualism

UNIT-3 1 Spinoza - Substance, attributes and modes.
2 Leibnitz - Monadology

UNIT-4 1 Locke - Refutation of innate Ideas
- Substance : Primay and Secondary qualities
2 Berkeley - Rejection of the distinction between primary and Secondary qualities

UNIT-5 1 Hume - Impresion and Ideas, Scepticism, Rejection of Self
2 Kant - Criticism

SUGGESTED BOOKS -

1 W. T. Stace - A Crifical History of Greek Philosophy
2. श्रीमती शोभा निगम - ग्रीक एवं मध्ययुगीन दर्शन
3 A. K. Rogers - A student's History of Philosophy
4. बी. एन. सिंह - पाश्चात्य दर्शन
5. याकूब मसीह - पाश्चात्य दर्शन
6. श्रीमती शोभा निगम - आधुनिक पाश्चात्य दर्शन

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संस्कृत

प्रथम प्रश्न-पत्र

नाटक, व्याकरण और अनुवाद — पूर्णांक 75

(पेपर कोड-0125)

इकाई-1 स्वप्नवासवदत्तम् - व्याख्या - अंक 15

इकाई-2 समीक्षात्मक प्रश्न - अंक 15

इकाई-3 सुबन्त (शब्द) राम, गति, भानु, पितृ, करिन् भूभृत्, कर्तृ, चन्द्रमस्, भगवत्, आत्मन्, लता, मति, नदी, धेनु, वधु, मातृ, फल, वारि, मधु, वाच्, रात्रि, सर्व, तद्, एतद्, यद्, इदम्, जगत्, अस्मद् तथा युष्मद् एक, द्वि. त्रि. चतुर वचन तिङन्त (धातु रूप) भ्वादि, दिवादि, तुदादि, चुरादि, इन चार वर्णों के धातुओं के लट्, लोट्, लङ् और विधिलिंङ्लकारों के रूप एवं अस और कृ धातुओं के भी लकार के अंक 20

इकाई-4 प्रत्याहार, संज्ञा तथा सन्धि और विभक्तयर्थ - अंक 15

इकाई-5 हिन्दी से संस्कृत में 10 वाक्यों का अनुवाद - अंक 10

1. रचनानुवाद कौमुदी - डॉ. कपिल देव द्विवेदी
2. संस्कृतस्य व्यावहारिक स्वरूपम् - डॉ. नरेन्द्र, श्री अरविन्द आश्रम,
3. संस्कृत व्याकरण - श्री धर वसिष्ठ
4. शुकनासोपदेश - मोती लाल बनारसीदास
5. संस्कृत में अनुवाद कैसे करें - उमाकान्त मिश्र सास्त्री, भारती भवन पहना. 1971
6. साधुबोध व्याकरणरम् - डॉ. श्रीमती पुष्पा दीक्षित, यन्त्रस्थ - पाणिनीय शोध संस्थान तेलीपारा, बिलासपुर (छ. ग.)
7. लघु सिद्धान्त कौमुदी - श्री शारदा रञ्जन रॉय - 1954
8. संस्कृत निबन्ध रत्नाकर - डॉ. शिव प्रसाद भारद्वाज, अशोक प्रकाशन दिल्ली- 1977 द्वितीय संस्करण

संस्कृत

द्वितीय प्रश्न पत्र

गद्य, कथा एवं साहित्येतिहास — पूर्णांक 75

(पेपर कोड-0126)

इकाई-1 शुकनासोपदेश (व्याख्या) - अंक 20

इकाई-2 हितोपदेश (मित्रलाभ) (व्याख्या) - अंक 20

इकाई-3 शुकनासोपदेश व हितोपदेश के समीक्षात्मक प्रश्न - अंक 10

इकाई-4 संस्कृत, नाटक एवं कथा साहित्य का इतिहास -अंक 15

इकाई-5 प्रमुख कवियों का प्रमुख परियच : महाकवि कालीदास, महाकवि माघ, महाकवि भारवि, महाकवि श्रीहर्ष, महाकवि अंबिकादत्त व्यास - अंक 10

1. संस्कृत साहित्य का अभिनव इतिहास - डॉ. राधा वल्लभ, वि. वि. प्रकाशन, सागर
2. संस्कृत साहित्य का इतिहास - पं. बलदेव उपाध्याय
3. हितोपदेश मित्रलाभ - मोतीलाल बनारसीदास काशी अथवा चौखम्बा प्रकाशन, काशी

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GEOGPAPHY

1. The B.A. Part-I Exmination in geography will be of 150 marks. There will be two theory papers and one Practical each of 50 marks as follows :

   Paper - I Physical Geography-I (Elements of Geomorphology)

   Paper - II Introduction to Geography and Human Geography.

   Paper - III Practical Geography

2. Each theory paper shall be of three hours duration.

3. Candidates will be required to pass separately in theory and practical examinations.

4. Each thory paper is divided into five units.

5. (a) In the practical examination the following shall be the allotment of time and marks:

   (i) Lab. Work - 25 marks up to three hours.

   (ii) Field work (survey) - 15 marks two hours.

   (iii) Practical record and viva voce - 10 marks

   (b) The external and internal examiners shall jointly submit marks.

   (c) The candidates shall present at the time of the practical examination their practical record regularly, signed by the teachers concerned.

PHYSICAL GEOGRAPHY - I

PAPER - I

ELEMENTS OF GEOMORPHOLOGY M.M. : 50

(Paper Code-0117)

UNIT-1 The nature and scope of Physical Geography; Inter relation of Physical Geography with other branches of earth science. The place of Geomorphology in Physical Geography, Geological Time scale.

UNIT-2 Earth's interior, Wegner's theory of Continental Drift, Plate Tectonics. Earth movements:- orogenic and epeirogenic. Isostasy, Earthquakes and Volcanoes.

UNIT-3 Rocks - Origin and composition of rocks, weathering, formation of regolith and soils, rocks and relief. Geomorphic agents and processes-erosion, transportation and deposition, mass wasting.

UNIT-4 Evolution of Land scape, concept of cycle of erosion, interruption of cycle of erosion. Fluvial, Arid, Glacial, Karst and Coastal Landscapes.

UNIT-5 Application of Geomorphology to Hydrology, Mining, Engineering works, Hazard management and urbanisalion.

PAPER - II

INTRODUCTION TO GEOGRAPHY AND HUMAN GEOGRAPHY M.M. : 50

(Paper Code-0118)

UNIT-1 The Nalure of Geography, objectives and relevance, Place of Geography in the classification of Sciences, Geography and other disciplines.

UNIT-2 Geography as the study of environment, man - environment relationship; ecology and ecosystems. Environmental determinism possibilism Neo - determinism; Dualism in Geography - Systematic / Regional, Physical/Human, Complementarity.

UNIT-3 Delinition and scope of Human Geography.

Human Races - Their characteristics and distribution.

Human adaptation - To the environment; Eskimos, Bushman, Pigmy, Gond, Masai, and Naga.

UNIT-4 Growth of Population; Distribution of Population, world distribution patlern - physical, economic and social factors influencing spatial distribution, concept of over population under population and optimum population. Migration - internal and international

Settements - Types and patterns of setllements.

UNIT-5 A brief historical overview of Geography as a discipline, recent trends in geography with special reference to India, imperatives for the future, career opportunities for geographers.

PAPER - III

PRACTICAL GEOGRAPHY **M.M. : 50**

SECTION A - CARTOGRAPHY AND STATISTICAL METHODS **M.M. 25**

1. Scale - Plain, Time, Diagonal and Comparative.
2. Methods of showing relief - hachures, contours; Representation of different land forms by contours, Drawing of profiles - serial, superimposed, projected and composit.
3. Line graph & Bar graph (Simple & Compound)
4. Circle Diagram, Pie diagram, wind rose.
5. Population pyramid.
6. Mean, Median and Mode.

SECTION B - SURVEYING - **M.M. 15**

7. Chain and tape Survey.

PRACTICAL RECORD AND VIVA VOCE **M.M. 10**

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SOCIOLOGY

PAPER - I

INTRODUCTION TO SOCIOLOGY M.M. : 75

(Paper Code-0115)

UNIT-1 The Meaning of Sociology - The Sociological perspective - Sociology and social sciences - The Scientific and humanistic Orientations ot Sociological Study. Basic concepts - Society, Community, institution, association, groop social structure, status and role.

UNIT-2 Institution, Family and Kinship, religion, Eduction, Politics. The Individual and society - Society. Culture and socialisation - Relation between individual and society - Social control, norms, values.

UNIT-3 Social Stratification and mobility Meaning forms and theories.

UNIT-4 Social Change Meaning and type evolution and progress factors of social change.

UNIT-5 Introduction to appliecd Sociology and Social Policy and action - Sociology and development, Sociology and professions.

ESSENTIAL READINGS :-

1 Bottomore T. B., Sociology - A guide to Problems and Literature, Bombay. George Allen and unwin (India) 1972.

2 Inkeles, Alex, What is sociology ? New Delhi, Prentice Hall of India 1987.

3 Jayram, N., Intrcductory Sociology, Madras Macmillan India 1988.

4 Johnson Harry M., Sociology of systematic Introduction New Delhi Allied Publishers1995.

PAPER - II

FOUNDATIONS OF SOCIOLOGICAL THOUGHT M.M. : 75

(Paper Code-0116)

UNIT-1 The Pioneers : emergence of Sociology.
Comle : Positivism - Spencer - Social Drwinism, Superorganic evolution

UNIT-2 The Classical tradition Durkheim - Social Solidarity and Suicide. Weber authority and the protestant Ethic and the spirit of capitalism.

UNIT-3 Marx : Materialist Conception of history and class struggle.

UNIT-4 Pareto : Circulation of elites and logical and nonlogical action.

UNIT-5 Development of Sociological thought in India :-
Mahatma Gandhi Ahinsa, Satya Graha,
Radha Kamal Mukerjee - The Concept of value.

ESSENTIAL READINGS -

Barres H.E. : Introduction to the history of sociology chicago the university of chicago press 1959.

Coser Lewis A : Master of sociological thought New york Harcourt Brace Jovanovich 1979.

Singh, yogendra - Indian sociology - social conditioning and emerging frends. New Delhi vistaar 1986.

Zeitlin, Irving - (Indian edition) Rethinking sociology : A critigue of contemporary thoiry Jarpur Rawal 1998.

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राजनीति विज्ञान

प्रथम प्रश्न पत्र

राजनीति सिद्धांत

पूर्णांक 75

(पेपर कोड-0113)

इकाई-1 **राजनीति विज्ञान** - परिभाषा प्रकृति, क्षेत्र, अध्ययन पद्धतियाँ, परम्परागत और व्यवहार परक स्वरूप । राजनीतिक सिद्धांत, महत्व ।

सत्ता एवं प्राधिकार - अर्थ, परिभाषा, विशेषताएँ एवं संबंध ।

इकाई-2 **राज्य** - अर्थ, आवश्यक तत्व, राज्य की उत्पत्ति के विभिन्न सिद्धांत ।

राज्य - एक प्रभावी परिपेक्ष्य में ।

इकाई-3 सम्प्रभुता, अर्थ, विशेषताएँ, सिद्धांत, महत्व ।

नागरिकता, अधिकार, स्वतंत्रता - अर्थ, परिभाषा, विशेषताएँ एवं सिद्धांत ।

इकाई-4 **समानता एवं न्याय** - अर्थ, परिभाषा, विशेषताएँ, संबंध ।

लोकतंत्र - अर्थ, परिभाषा, विशेषताएँ, आवश्यक परिस्थितियाँ । लोकतंत्र को चुनौतियाँ ।

इकाई-5 **विकास एवं कल्याणकारी राज्य** - अवधारणा, विशेषताएँ, कार्य, उपलब्धियाँ, चुनौतियाँ ।

सामाजिक परिवर्तन के सिद्धांत -अर्थ, परिभाषा, विशेषताएँ

अनुगंसित पुस्तकें-

1. जी. एन. सिंह - फंडामे. प्लस ऑफ पोलिटिकल साइंस एन्ड आर्गेनाइजेशन ।
2. डी. हेल्ड - मॉडल्स आफ डेमोक्रेसी पोलिटिकल थ्योरी एवं मार्डन ट्रेड
3. आगी वाईम ई. - पोलिटिकल थ्योरी ।
4. डी. मिलर - सोशल जस्टिस, सिटीजनशिप एन्ड नेइनल आइडेन्टिटीज
5. एस. एम. ओकिन - जस्टिस जेंडर एन्ड दी फैमली
6. हरिहर राय एवं सिंह - राजनीति शास्त्र के नये आयाम
7. डॉ. बाबूलाल फाड़िया - राजनीति शास्त्र के सिद्धांत
8. डॉ. ओम नागपाल - राजनीति विज्ञान के मूल तत्व ।
9. डॉ. बी. आर पुरोहित - राजनीति शास्त्र के मूल सिद्धांत ।
10. एस. गया ग्वाली - पोलिटिकल थ्योरी आइडियाज एन्ड कांसेप्ट

द्वितीय प्रश्न पत्र

राज्य शासन एवं राजनीति

अंक 75

(पेपर कोड-0114)

इकाई-1 **भारतीय संविधान का निर्माण एवं इसके स्रोत** - भारतीय संविधान की आधार भूत विशेषताएँ, प्रस्तावना । मूल अधिकार, मौलिक कर्त्तव्य एवं राज्य के नीति निर्देशक तत्व

इकाई-2 केन्द्रीय शासन - राष्ट्रपति, संसद, मंत्री मंडल एवं प्रधान मंत्री, गठन, नियुक्ति, अधिकार, शक्तियाँ एवं वास्तविक स्थिति ।

इकाई-3 राज्य शासन - राज्यपाल, मंत्री परिषद् एवं मुख्य मंत्री नियुक्ति, गठन, अधिकार, शक्तियाँ एवं वास्तविक स्थिति

केन्द्र राज्य संबंध - प्रशासनिक, न्यायिक एवं आर्थिक

इकाई-4 सर्वोच्च न्यायालय एवं संवैधानिक प्रक्रिया ।

गठन, क्षेत्राधिकार वर्तमान परिपेक्ष्य में बदलता स्वरूप

राजनीतिक दल - राष्ट्रीय एवं क्षेत्रीय

अर्थ, परिभाषा, विशेषताएं एवं प्रकार

निर्वाचन आयोग एवं निर्वाचकीय सुधार

गठन, कार्य अधिकार एवं निर्वाचकीय सुधार एवं अध्ययन ।

इकाई-5 भारतीय राजनीति के प्रमुख मुद्दे -

जाति, धर्म, भाषा, क्षेत्र एवं गरीबी उन्मूलन ।

अनुशंसित पुस्तकें-

1. डी. डी. बसु - एन इंट्रोडक्शन दी कानस्टीट्यूशन आफ इंडियन
2. सी. पी. भांभरी - दी इंडियन स्टेट - 50 इयर्स
3. ग. चन्द्रा - फेडर्रज्मि इन इंडिया द स्टडी ऑफ यूनियन स्टेट रिलेशन ।
4. बी. गल. पाड्या - स्टेट पालिटिल्स इन इंडिया ।
5. एस. कश्यप - अवर पार्लियामेंट ।
6. रजनी कोठारी - राज्यों की राजनीति ।
7. डी. सी. जौहरी - भारतीय शासन एवं राजनीति ।
8. जैन फाड़िया - भारतीय शासन एवं राजनीति ।
9. वीरकेश्वर प्रसाद सिंह - भारतीय शासन ।
10. वी. कुप्पुग्याकी - सोशल चेंज इन इंडिया ।
11. इकबाल नारायण - स्टेट पॉलिटिक्स इन इंडिया ।

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MUSIC

Note : 1. B. A.(General) three year degree course with the relative wcight of pracicval and thcory being in the proportion 50 and 50 respectively (Model curriculum, page No.21A) courses. Hence the Central Board of Studies devide the ratio as :-

Ist paper 40 marks (written or Theory) Revised as 50

2ad paper 40 mars (written or Theory) Revised as 50

practical of 10 marks from which 10 marks are for the intcrnal sossional work.

B.A. General (as one of the optional objccts).

Hindustain Music (Vocal +Instrumental..)

THEORY

PAPER - I **M.M. : 50**

(Paper Code-0131)

1. Definition and Illustrations :- Naad, Shruti, Swara, Saptak, Purvang, Uttarang, Vadi, Samvadi, Vivadi, Anuvadi, Alankar, That, Mind, Soota, Bol, Alap, Tan, Tihai, pakad.
2. General knowledge of the Musical Styles:-

   Dhrupad, Dhamar, khyal, Thumari, Tarana, Tappa, Hori, Chaturang, Geet, bhaion, Ghazal,
3. General Kniowldege of the biographies and the contributions of the following Musi cians:-

   Ameer khusroi, Swami Haridas, Tansen, Nayak Baiju, Nayak Gopal, Tyagraja.
4. Merits and Demerits of Musicians according to the Shastras.
5. Study of the Theoritical details of prescribed Ragas for Practical Course as follows :- Yaman, Bhupali, Allhaiya Bilawal, Bhairav, Kafi, Khamaj, Brindavani - sarang, Durga (Bilawal That).

THEORY

PAPER - II **M.M. : 50**

(Paper Code-0132)

1. Hindustani Music and Karnataka Music, short history, similarities and Differences.
2. Study of Natation Systems - Pt. Bhatkhande and Pt. Paluskar.
3. Time Theory of the Ragas, Purva Raga, Utlar Raga, Sandhi Prakash Raga,
4. Formation of Ragas, Sampurna, Shadav, Audawa, Jati, That or Mel Theory.
5. Definition of Tala, Matra, Avartan, Bol, Vibhag, Khali, Bhari, Vilambit, Madhya and Drutlaya Writing of the Talas in Notation with Dugan

PRACTICAL

M.M. : 50

1. Alankar (Palta)
2. Study of the following Ragas :- Yaman, Bhupali, Alahaiya Bilawal, Bhairav, Kafi, Khamaj, Brindavani Sarang, Durga (Bilawal That)
3. Two Vilambit Khyalas or Masitkhani Gat in any two of the above mentioned Ragas.
4. Madhya Laya Khyalas or Razakhani Gat with Alap, Tan, Tora Jhala, in any five of the above Ragas.
5. Lakshan Geet, Saragam Geet in all the above Ragas.
6. Ability to demonstrate (orally by giving Tali and Khali of on hand) Talas Prescribed in course as follows :- Dadra, Kaharva, Teen Tal, Ektal, Chautal, Jhaptal.
7. One Dhrupad or Dhamar / one Gat other than teen Tal (Composition only)
8. One Bhajan, Ghazal, Geet, Patrioteec song and prayer.

INTERNAL SCSSIONAL WORK -

1. Ten Descriptions of Music Programmes (Radio and T. V. personally atlonded)

RECOMMENDED BOOK -

1. Kramik Pustak Malika (Part I to Part IV) By pt. V.N. Bhatkhande.
2. Sangitanjali Part I to VI By Pt. Onkar Nath Thakur.
3. Sangeet Visharad (Hathras) By Vasant
4. Sangeet Bodh, By Dr. Sarad Cahndra Paranjape
5. Dhawani aur Sangeet, by Prof. L. K. Sing
6. Tan Malika, by Raja Bhaiya Poocvale
7. Hamare Sangeet Ratna, by Lakshmi Narayan Garg.
8. Rag Parichaya Part I to IV By Harish Chandra Shrivastava
9. All Journals and Magazenes of Music
10. Sitar Malika, (Hathra)
11. Tabla Vigyan, by Dr. Lalmani Misra
12. Swar aur Ragon ke Vikas me Vadyon ka Yogdan, By Prof. Indrani Chakrawarty.
13. Sangeet Manjusha By Prof. Indrani Chakrawarty.
14. Music - its methods and technique and teaching in Higher Education.
    By Prof. Indrani Chakrawarty.
15. Sangeetanjali Part I to V By Pt. Ramashraya Jha.

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MANAGEMENT

Paper - I

PRINCIPLE OF MANAGEMENT

(Paper Code-0135)

Time : 3 Hours **Max. Marks : 75**

UNIT-I Evolution of Modern Industrial Organisation and Management Thought.

Industrial Revolation - Impact on society

Contribution - Frederic Winslow Taylor Eiton Moyo

- Douglas Mc. Gregor

The nature and scope of Management process definition of Management and Management process important characteristics of the process. The eight prepositions for effective organisation Philosophy, Urwick's Ten Principles, Different Schools of Thought.

UNIT-II Coordination - Definition and Meaning, Need and importance principles and Techni-ques.

Planning - Definition, Nature and purpose nature and process of forecasting.

Basic objective & Types of Plan - Objectives long and short range criteria of sound objectives.

- Types of Plans Decision making Meaning and basis for selecting alternatives.

- Strategies : Policies and Procedure.

- Qualities of Planning Process.

ORGANISATION

UNIT-III Nature, Importance, Components of Organisation,

Departmentation - Methods.

Span of Control - Wide and Narrow Spans.

Authority - Line and Staff, Decentralization, delegation, types of staff authority, factors determining the degree of decentralization.

Staffing : Nature and Importance.

Factors determining the selection of Managerial personnel.

Management Appraisals.

Development and Training of Managers.

UNIT-IV Deirection : Nature and importance of Communication.

Methods of building a communication net work.

Personal communication and use of orders.

Changing patterns of supervisory responsibility.

Factors of effective supervision

Selection and training of supervisors.

T.W.I. Programmes.

Nature and Importance of discipline.

Causes of Indiscipline.

Means of effective discipline.

UNIT-V Basic steeps in control process.

Importance of Control.

Requirements for an effective control.
Purpose of Budgeting.
Types of budgets.
Elements of costs and types of costing.
Role of cost accounting.

BOOKS RECOMMENDED :

1. Koontz, Harold : Principles of Management
2. Chatterjee, S. S. : An Introduction to Management
3. Kast, Fremont E. : Organisation Management
4. Asthena G. P. : The Ground Work of Management.
5. डॉ. गुप्ता : व्यवसाय प्रशासन एवं प्रबंध
6. डॉ. आर.सी. सक्सेना : व्यवसाय प्रशासन एवं प्रबंध
7. Dr. K. N. Dinesh : Structure of Medium Scale Industries.

Paper-II

COMMERCIAL ACCOUNTANCY

(Paper Code-0136)

Max. Marks : 75

UNIT-1 Definition and objects of book-keeping, principle ofDouble Entry, its objects and advatages.
Journal Simple journal enatries, compound journal entries rules for recording journ.

UNIT-2 Ledger & ledger account, positing of journal entries, types of ledger accounts Balancing of ledger accounts Cash book: Cash book with cash and discount columns three column or cash book, petty cash book.

UNIT-3 Bank reconciliation statement.
Bill Transaction.
Endorsement of Bill
Dishonourment of Bill
Accomodation Bill

UNIT-4
1. Trial Balance.
2. Rectification of errors
3. Capital andrevenue expenditure.

UNIT-5 Final Accounts :
1. Manufacturing accounts trading
2. Profit and loss account
3. Balance Sheet.

BOOKS RECOMMENDED :

1. M.M. Shah : Double entry Book keeping
2. R.R. Gupta : Book keeping & Accounts.
3. T.S. Grewal : Introduction to accountancy.
4. Juneja, Chawla & Saksena : Elementary Book-keeping.
5. Karim & Khanuja : Financial Accounting

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ANTHROPOLOGY

PAPER-I

FOUNDATION OF ANTHROPOLOGY M. M. 50

(Paper Code-0141)

UNIT-1 Meaning and scope of Anthropology, History of Anthropology Branches of Anthropology.

(a) Sociocultural Anthropology;

(b) Physical-Biological Anthropology;

(c) Archaeological Anthropology;

(d) Linguistic Anthropology.

UNIT-2 Relationship with other disciplines : Life sciences, Earth sciences, Medical Sciences, Social Sciences, Humanities, Environment Sciences.

UNIT-3 Foundation in Biological Anthropology.

(a) Human Evolution

(b) Human Variation

(c) Human Genetics

(d) Human Growth and Development.

UNIT-4 Fundamentals in Social-Cultural Anthropology.

(a) Culture, Society, Community, Group, Institution.

(b) Human Institution : Family, Marriage, Kinship Religion.

(c) Development and change.

(d) Research Methods : Tools and Techniques

UNIT-5 Fundamentals in Archaeological Anthropology.

(a) Tool typology & Technology.

(b) Cultural cvolution : Broad outlines of cultures.

(c) Chronology.

PAPER - II

INTRODUCTION TO PHYSICAL ANTHROPOLOGY

(Paper Code-0142)

UNIT-1 Theories of organic evolution, synthetic theory of evolution.

UNIT-2 Position of Man in animal kingdom : comparative anatomy of Man and Apes.

UNIT-3 Fossil evidence of human evolution, origin of tool making and their evolution.

UNIT-4 Concept of race, Genetic basis of Race, UNESCO Statement on RACE-Ethnic Group population, Racial classification of human populations.

UNIT-5 Human Genetics, Mendelian principles, Genetic markers, DNA.

PAPER - III

ANTHROPOLOGY PRACTICAL

I Identification of long bones and Girdles :

Sketching and labelling

II. Craniometry :

(i) Maximum Cranial length
(ii) Maximum Cranial breadth
(iii) Minimum frontal Breadth
(iv) Bizygomatic Breadth
(v) Nasal Height
(vi) Nasal Breadth
(vii) Basion Bregmatic Height
(viii) Bimaxillary Breadth
(ix) Biometrical Breadth
(x) Length of occipital foramen.

III. Somatometry :

(i) Max. Head Length
(ii) Max. Head Breadth
(iii) Minimum Frontal Breadth
(iv) Nasal Length
(v) Nasal Breadth
(vi) Height Vertex
(vii) Height Acromion
(viii) Morphological Facial length
(ix) Bigonial Breadth
(x) Bizygomatic Breadth.
(xi) Somatoscopic Observations :-

(i) Skin (ii) Eye (iii) Nose (iv) Forehead.

PRACTICAL SCHEME M.M. - 50

1. Algae / Fangi - matarial 06
2. Bayophyta / pteridophyla material 06
3. Diseare Symploms (path) / Gram's slaining 03
4. Cytology / Genelics 15
5. Spols - (1-5) 10
6. Viva voce 05
7. Sessional 05

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MATHEMATICS

NOTE : 1 The model curriculum proposed by UGC was discussed in the meeting and it was resolved that the proposed syllabus for B.Sc. Part I supplied by U.G.C. be recommended as syllabus for Exam 2003 of B.A./B.Sc. Part I in all the Universities/ Colleges of Chhattigarh.

2 The UGC syllabus has been divided in to 5 units...

MATHEMATICS

PAPER - I

ALGEBRA AND TRIGONOMETRY (Paper Code-0145) M.M. - 50

ALGEBRA :

UNIT-1 Mappings. Equivalence relations and partitions. Congruence modulor symmetric, Skew symmetric, Hermition and skew, Hermition matrices. Elementary Matsices Operations on inverse of a matrix. Linear indepenence of row and column matrices. Row rank, column rank and rank of a matrix. Equivalence of column and row ranks.

UNIT-2 Eigenvalues, eigenvectors and the characteristic equastion of a matrix. Cayley Hamilton theorem and its use in finding inverse of a matrix. Applications of matrices to a system of linear (both homogenous and non-homogeneous) equations. Theorems on consistency of a system of linear equations.

UNIT-3 Relations between the roots and coefficients of general polynomial equation in one variable. Transformation of equations. Descarte's rule of signs. Solution of cubic equations (Cardon method). Biquadratic equations.

UNIT-4 Definition of a group with examples and simple properties. Subgroups. Generation of groups. Cyclic groups. Coset decomposition. Lagrange's theorem and its consequences. Fermat's and Euler's theorems. Homomorphism and Isomorphism. Normal subgroups. Quotient groups. The fundamental theorem of homomorphism. Permutation groups. Even and odd permutations. The alternating groups An. Cayley's theorem. Introduction to rings, subrings, integral domains and fields. Characteristic of a ring.

TRIGONOMETRY :

UNIT-5 De Moivre's theorem and its applications. Direct, inverse circular and hyperbolic functions. Logarithm of a complex quanity. Expansion of trigonometrical functions. Gregory's series. Summation of series.

TEXT BOOKS :

1. I.N. Herstein, Topics in Algebra, Wiley Eastern Ltd., New Delhi, 1975.
2. K.B. Datta, Matrix and Linear Algebra, Prentice Hall of India pvt. Ltd. New Delhi, 2000.
3. Chandrika Prasad, Text-book on Algebra and Theory of Equations, Pothishala Private Ltd., Allahabad.
4. S.L. Loney, Plane Trigonometry Part-II, Macmillan and Company, London.

REFERENCES :

1. I.N. Herstein, Topics in Algebra, Wiley Eastern Ltd., New Delhi, 1975.
2. K.B. Datta, Matrix and Linear Algebra, Prentice Hall of India Pvt. Ltd. New Delhi, 2000.
3. P.B. Bhattacharya, S.K. Jain and S.R. Nagpaul, first course in Linear Algebra, Wiley Eastern, New Delhi, 1983.
4. P.B. Bhattacharya, S.K. Jain and S.R. Nagpaul, Baxic Abstract Algebra (2"" Edition), Cambridge University press, Indian Edition, 1997.

5 S.K. Jain, A. Gunawardena and P.B. Bhattachasrya, Basic Linear Algebra with MATLAB, Key college publishing (Springer-Verlag), 2001.
6 H.S. Hall and S.R. Knight, Higher Algebra, H.M. publications, 1994.
7 Chandrika Prasad, Text-Book on Algebra and Theory of Equations, Pothishala Private Ltd., Allahabad.
8 S.L. Loney, plane Trigonometry Part-II, Macmillan and Company, London.
9 R.S. Verma and K.S. Shukla, Text Book on Trigonometry, Pothishala Pvt. Ltd., Allahabad.

PAPER - II

CALCULUS (Paper Code-0146)

DIFFERENTIAL CALCULUS- **Max. Marks : 50**

UNIT-1 definition of the limit of a function. Basic properties of limits. Continuous functions and classification of discontinuities. Defferentiability. Successive differentiation. Leibnritz therem. Maclaurin and Taylor series expansions.

UNIT-2 Asymptoters. Curvature. Tests for concavity and convexity. Points of inflexion. Multiple points. Tracing of curves in Cartesian and polar coordinates.

INTEGRAL CALCULUS-

UNIT-3 Integration of irrational algebraic functions and transcendental functions. Reduction formulae. Definite integrals. Quadrature. Rectification. Volumes and surfaces of solids of revolution.

ORDINARY DIFFERENTIAL EQUATIONS-

UNIT-4 Degree and order of a differential equation. Equations of first order and first degree. Equations in which the variables are separable. Homogeneous equations. Linear equations and equations reducible to the linear form. Exact differential equations. First order higher degree equations solvable for x, y, p. Clairaut's form and singular solutions. Geometrical meaning of a differential equation. Orthogonal trajectories. Linear differential equations with constant coefficients. Homogeneous linear ordinary differential equations.

UNIT-5 Linear differential equations of second order. Transformation of the equation by changing the dependent variable / the independent variable. Method of variation of parameters. Ordinary simultaneous differential equations.

TEXT BOOKS :

1 Gorakh Prased, Differential Calculus, Pothishala Private Ltd. Allahabad.
2 Gorakh Prasad, Integral Calculus, Pothishala Private Ltd., Allahabad.
3 D. A. Murray, Introductory Course in Differential Equations, Orient Longman (India), 1967.

REFERENCES :

1 Gabriel Klambauer, Mathematical Analysis, Marcel Dekkar, Inc. New York, 1975.
2 Murray R. Spiegel, Theory and Problems of Advanced Calculus, Schaum's outline series, Schaum Publishing Co. New York.
3 N. Piskunov, Differential and Integral Calculus, Peace Publishers, Moscow.
4 P. K. Jain and S. K. Kaushik, An Introduction to Real Analysis, S. Chand & Co. New Delhi, 2000.
5 Gorakh Prasad, Differential Calculus, Pothishala Private Ltd. Allahabad.
6 Gorakh Prasad, Integral Calculus, Pothishala Private Ltd., Allahabad.
7 D. A. Murray, Introductory Course in Differential Equations, Orient Longman (India), 1967.
8 G. F. Simmons, Differential Equations, Tata McGraw Hill, 1972.

9. E. A. Codington, An Introduction to ordinary differential Equations, Prentice Hall of India, 1961.
10. H. T. H. Piaggio, Elementary Treatise on Differential Eidations and their Applications, C.B.S. Publisher & Distributors, Delhi, 1985.
11. W. E. Boyce and P.O. Diprima, Elementary Differential Equations and Boundary Value Problems, John Wiley, 1986.
12. Erwin Kreyszig, Advanced Engineering Mathematics, John Wiley and Sons, 1999.

PAPER III

VECTOR ANALYSIS AND GEOMETRY (Paper Code-0147)

VECTOR ANALYSIS- **M.M. - 50**

UNIT-1 Scalar and vector product of three vectors. Product of four vectors. Reciprocal Vectors. Vector differentiation. Gradient, divergence and curl.

UNIT-2 Vector integraton. Theorems of Gauss, Green, Stokes and problems based on these.

GEOMETRY-

UNIT-3 General equation of second degree. Tracing of conics. System of conics. Confocal conics. Polar equation of a conic.

UNIT-4 Plane. The Straight line and the plane. Sphere, Cone and Cylinder.

UNIT-5 Central conicoids. Paraboloids. Plane Sections of Conicoids. Generating lines. Confocal Conicoids. Reduction of Second degree equations.

TEXT BOOKS :

1. N. Saran and S. N. Nigam, Introduction to Vector Analysis, Pothishala Pvt. Ltd., Allahabad.
2. Gorakh Prasad and H. C. Gupta, Text Book on Coordinate Geometry, Pothishala Pvt. Ltd. Allahabad.
3. R.J.T. Bill, Elementary Treatise on Coordinate Geometry of Three Dimensions, Macmillan India Ltd., 1994.

REFERENCES :

1. Murray R. Spiegel, Theory and Problems of Advanced Calculus, Schaum Publishing Company, New York.
2. Murray R. Spiegel, Vector Analysis, Schaum Publishing Company, New York.
3. N. Saran and S. N. Nigam, Introduction to Vector Analysis, Pothishala Pvt. Ltd., Allahabad.
4. Erwin Kreyszig, Advanced Engineering Mathematics, John Wiley & Sons, 1999.
5. Shanti Narayan, A Text Book of Vector Calculus, S. Chand & Co., New Delhi.
6. S. L. Loney, The Elements of Coordinate Geometry, Macmillan and Company, London.
7. Gorakh Prased and H. C. Gupta, Text Book on Coordinate Geometry, Pothishala Pvt. Ltd., Allahabad.
8. R. J. T. Bill, Elementary Treatise on Coordinate Geometry of Three Dimensions, Macmillan India Ltd., 1994.
9. P. K. Jain and Khalil Ahmad, A Text Book of Analytical Geometry of Two Dimensions, Wiley Eastern Ltd. 1994.
10. P. K. Jain and Khalil Ahmad, A Text Book of Analytical Geometry of Three Dimensions, Wiley Eastern Ltd., 1999.
11. N. Saran and R. S. Gupta, Analytical Geometry of Three Dimensions, Pothishala Pvt. Ltd. Allahabad.

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भाषाविज्ञान

प्रथम प्रश्न-पत्र

भाषा की प्रकृति (पेपर कोड-0107)

1. भाषा – मानव एवं मानवेत्तर संप्रेषण,परिभाषा, विशेषताएँ, भाषा विज्ञान की उपयोगिता, भाषा विज्ञान की विभिन्न शाखाएँ, भाषाविज्ञान का अन्य विषयों के साथ संबंध ।
2. भाषा सीखने की प्रक्रिया – मौखिक एवं लिखित भाषा के विविध रूप, भाषा बोली में अंतर, बोली के भाषा बन जाने के कारण, भाषाई परिवर्तन के प्रकार एवं कारण ।
3. मनोभाषाविज्ञान – भाषा एवं मस्तिष्क, मस्तिष्क में भाषा के अवयव, स्थानीयकरण, भाषिक व्यतिक्रम अस्पष्टार्थकता, अनेकार्थकता ।
4. भाषा एवं विचार – भाषा – सामर्थ्य एवं भाषा–व्यवहार, सहजात परिकल्पना, निश्चयवाद – अनुभववाद ।
5. हिन्दी भाषा का उद्‌भव और विकास, हिन्दी की उपभाषाएँ तथा विविध बोलियाँ, छत्तीसगढ़ी की विशेषताएँ ।

निर्धारित पुस्तकें –

1.	सैद्धांतिक भाषाविज्ञान	–	जे. लियांस (अनवाद – सत्यकाम वर्मा)
2.	सामान्य भाषाविज्ञान	–	रॉबिंस
3.	सामान्य भाषाविज्ञान	–	बाबूराम सक्सेना
4.	भाषाविज्ञान	–	भोलानाथ तिवारी
5.	भाषा, विचार और वास्तविकता	–	बेंजामिन ली होर्फ
6.	भाषाविज्ञान	–	राजमल बोरा
7.	भाषा विज्ञान सैद्धांतिक चिंतन	–	रविन्द्रनाथ श्रीवास्तव
8	Philosophy of Language	-	S. Chopman, Routledge, London.
9	An Introduction to Language and Communication	-	A. Akmajian (etal.) Mit Press Massachusatts, 1990/1996 (Indian Repoint, Prentice Hall, 1996)

द्वितीय प्रश्न पत्र

ध्वनि और शब्द अभिरचना (पेपर कोड-0108)

1. ध्वनिविज्ञान – स्वरूप एवं शाखाएँ, वाग्यंत्र की संरचना एवं कार्य, स्वर तथा व्यंजन की परिभाषा एवं अंतर ।
2. स्वर – वर्गीकरण के विभिन्न आधार, मान स्वर – त्रिकोण, प्रधान एवं गौण मान स्वर संध्यक्षर (संयुक्त स्वर)
3. व्यंजन – वर्गीकरण के विभिन्न आधार, संयुक्त व्यंजन, अंतर्राष्ट्रीय ध्वन्मात्मक प्रतिलिपि चिह्न (आई.पी.ए.)
4. अक्षर एवं ध्वनिगुण – मात्रा, बलाघात, सुर अनुतान (सुर लहर), संगम, व्यतिरेकी वितरण, परिपूरक वितरण सह स्वनों का निर्धारण ।
5. शब्द परिभाषा, वर्गीकरण, हिन्दी में आगत शब्दावली, शब्द समूह में परिवर्तन – कारण एवं दिशाएँ (प्रकार) ।

निर्धारित पुस्तकें –

1.	ध्वनिविज्ञान	–	गोलोक बिहारी धल
2.	स्वनविज्ञान	–	चतुर्भुज सहाय
3.	भाषाविज्ञान	–	भोलानाथ तिवारी
4.	शब्दों का अध्ययन	–	भोलानाथ तिवारी
5.	हिन्दी का नवीनतम बीज–व्याकरण	–	रमेश चंद्र महरोत्रा एवं चित्तरंजन कर
6	Linguistics : An Introduction	-	A. Rad ford (et al.), Cambridge University Press, 1999.
7	A Course in Phonetics	-	P. Lodefoged, Hordcourt Brace Jovanovict New York, 1993.

विषय - नृत्य (भरत नाट्यम)

बी.ए. भाग (1) के लिये इस विषय में प्रायोगिक और सैद्धांतिक दो भाग होंगे । प्रायोगिक 50 अंक तथा सैद्धांतिक 100 अंक का होगा, जिस हेतु 50 अंक के दो प्रश्न पत्र होंगे । प्रत्येक वर्ष के पूर्णांक कुल मिलाकर 150 अंक के होंगे ।

क्र.	विवरण	पूर्णांक	उत्तीर्णांक
1.	सैद्धांतिक प्रश्न पत्र : प्रथम	50	17
2.	सैद्धांतिक प्रश्न पत्र : द्वितीय	50	17
3.	प्रायोगिक	50	17
	योग-	**150**	**51**

प्रथम प्रश्न पत्र
(पेपर कोड-0152)

1. नृत्य का इतिहास - सिन्धु सभ्यता, वैदिक काल, रामायण एवं महाभारत काल ।
2. पुराणों के आधार पर उमाशंकर की विभिन्न नृत्य संबंधी कथायें ।
3. नटवर श्री कृष्ण की नृत्य संबंधी कथायें ।
4. नाट्य की उत्पत्ति कथा (भरत नाट्य शास्त्र के प्रथम अध्याय में वर्णित)
5. लोकधर्मी नाट्य परम्परा - निम्नांकित लोकधर्मी नाट्य परम्पराओं में किन्हीं दो की संक्षिप्त जानकारी -
   (1) रामलीला (2) रासलीला (3) भवाई
   (4) राई (5) माच

द्वितीय प्रश्न पत्र
(पेपर कोड-0153)

1. ताल की प्रारंभिक जानकारी - (1) ताल की व्याख्या, (2) लय - विलंबित, मध्य, द्रुत ।
2. छत्तीसगढ़ के दो लोग नृत्यों का सामान्य परिचय - (पर्व एवं त्यौहारों के आधार पर)
   (1) करमा, (2) ददरिया, (3) सुवा, (4) रीना ।
3. संगीत की व्याख्या और नृत्य का उसमें स्थान ।
4. नृत्य के अभ्यास से शारीरिक एवं मानसिक लाभ ।
5. भारतीय नाट्य परम्परा में गुरूवंदना का महत्व ।

प्रायोगिक

1. मौखिक मुद्रा प्रदर्शन - (अभियण दर्पणम् के अनुसार)
   (1) शिवस्तुति (2) शिरोभेद (3) ग्रीवाभेद
   (3) नेत्र संचालन (5) असंयुक्त हस्तमुद्रा (6) संयुक्त हस्तमुद्रा
2. कार्यक्रम विभाग -
   (1) शारीरिक अभ्यास (2) अड़ऊ-05 अंग संचालन (पाद संचालन + हस्त संचालन) तीन काल में
   (3) पूजा नृत्य (4) अलारिपु (तिस्त्रजाति) ।

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सांख्यिकी

PAPER - I

PROBABILITY THEORY

(Paper Code-0148)

UNIT-I Important Concepts in Probability : Definition of probability - classical and relative frequency approach to probability, Richard Von Mises, Cramer and Kolmogorov's approaches to probability, merits and demerits of these approaches (only general ideas to be given).

UNIT-II Random Experiment : Trial, Sample point and sample space, definition of an event, operation of events, mutually exclusive and exhaustive events. Discrete sample space, properties of probability based on axiomatic approach, conditional probability, independence of events, Bayes' theorem and its applications.

UNIT-III Random Variables : Definition of discrete random variables, probability mass function, idea of continuous random variable, probability density function, illustrations of random variables and its properties, expectation of a random variable and its properties - moments, measures of location, dispersion, skewness and kurtosis, probability generating function (if it exists), their properties and uses.

UNIT-IV Standard univariate discrete distributions and their properties : Discrete Uniform, Binomial, Poisson, Hypergeometric and Negative Binomial distributions.

UNIT-V Continuous univariate distributions - uniform, normal, Cauchy, Laplace, Exponential, Chi-Square, Gamma and Beta distributions. Bivariate normal distribution (including marginal and conditional distributions).

Chebyshev's inequality and applications, statements and applications of weak law of large numbers and central limit theorems.

REFERENCES :

Bhat B. R, Srivenkatramana T and Rao Madhava K. S. (1997) : Statistics : A Beginner's Text, Vol. II, New Age lnternational (P) Ltd.

Edward P.J., Ford J. S. and Lin (1994) : Probability for Statistical Decision-Making, Prentice Hall.

Goon A. M., Gupta M. K., Das Gupta. B. (1999) : Fundamentals of Statistics, Vol. I, World Press, Calcutta.

Mood A. M, Graybill F. A. and Boes D.C. (1994) : Introduction to the Theory of Statistics, McGraw Hill.

ADDITIONAL REFERENCES :

Cooke, Cramer and Clarke () : Basic Statistical Computing, Chapman and Hall.

David S (1996) : Elementary Probability, Oxford Press

Hoel P.G. (1971) : Introduction to Mathematical Statistics, Asia Publishing House.

Meyer P.L. (1970) : Introductory Probability and Statistical applications. Addision Wesley.

PAPER - II

DESCRIPTIVE STATISTICS

(Paper Code-0149)

UNIT-I Types of Data : Concepts of a statistical population and sample from a population; qualitative and quantitative data; nominal and ordinal data; cross sectional and time series data; discrete and continuous data; frequency and non-frequency data. Different types of scales - nominal, ordinal, ratio and interval.

Collection and Scrutiny of Data : Primary data - designing a questionnaire and a schedule; checking their consistency. Secondary data - its major sources including some government publications. Complete enumeration, controlled experiments, observational studies and sample surveys. Scrutiny of data for internal consistency and detection of errors of recording. Ideas of cross-validation.

UNIT-II Presentation of Data : Construction of tables with one or more factors of classification. Diagrammatic and graphical representation of grouped data. Frequency distributions, cumulative frequency distributions and their graphical representation, histogram, frequency polygon and ogives. Stem and leaf chart. Box plot.

UNIT-III Analysis of Quantitative data : Univariate data, Concepts of central tendency or location, dispersion and relative dispersion, skewness and kurtosis, and their measures including those based on quantiles and moments. Sheppard's corrections for moments for grouped data (without derivation).

UNIT-IV Bivariate Data : Scatter diagram. Product moment correlation coefficient and its properties. Coefficient of determination. Correlation ratio. Concepts of error in regression. Principle of least squares. Fitting of linear regression and related results. Fitting of curves reducible to polynomials by transformation. Rank correlation — Spearman's and Kendall's measures.

UNIT-V Multivariate data : Multiple regression, multiple correlation and partial correlation in three variables. Their measures and related results.

Analysis of Categorical Data : Consistency of categorical data. Independence and association of attributes. Various measures of association for two way and three way classified data.

REFERENCES :

Bhat B. R. Srivenkairamana T and Rao Madhava K.S. (1996); Statistics : A Beginner's Text Vol. I, New Age Infernational (P) Ltd.

Croxtion F. R. Cowden D. J. and Kelin S (1973) : Applied General Statistics, Prentice Hall of India.

Goon A. M. Gupta M. K., Das Gupta. B. (1991) : Fundamentals of Statistics, Vol. I, World Press, Calcutta.

ADDITIONAL REFERENCES :

Anderson T. W and Sclove S. L (1978) An Introduction to the Statistical Analysis of Data, Houghton Miffin/Co.

Cooke, Cramer and Clarke () : Basic Statistical Computing, Chapman and Hall.

Mood A.M, Graybill F. A. And Boes D. C. (1974) : Introduction to the theory of Statistics, McGraw Hill.

Snedecor G. W. and Cochran W. G. (1967) : Statistical Methods. lowa State University Press.

Spiegel, M. R. (1967) : Theory & Problems of Statistics, Schaum's Publishing Series.

PRACTICAL

1. Presentation of data by Frequency tables, diagrams and graphs.
2. Calculation of Measures of central tendency, dispersion, skewness and kurtosis.
3. Product Moment Correlation and Correlation ratio.
4. Fitting of Curves by the least square method.
5. Regression of two variables.
6. Spearman's Rank correlation and Kendall's tau.
7. Multiple regression of three variables.
8. Multiple correlation and partial correlation.
9. Evaluation of Probabilities using Addition and Multiplication theorems, conditional probabilities, and Baye's theorems.
10. Exercises on mathematical expectations and finding measures of central tendency, dispersion, skewness and kurtosis of univariate probability distributions.
11. Fitting of standard univariate and continuous distributions.

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प्राचीन भारतीय इतिहास, संस्कृति तथा पुरातत्व

प्रथम : प्रश्न-पत्र

भारत का राजनीतिक इतिहास (पेपर कोड-0133)

(हड़प्पा संस्कृति से 319 ई. तक) **पूर्णांक : 75**

उद्देश्य : इस पाठ्यक्रम का उद्देश्य छात्रों को संबंधिक कालखण्ड के राजनीतिक इतिहास की समुचित जानकारी देना है।

इकाई-1 (1) प्राचीन भारतीय इतिहास के स्रोत
(2) हड़प्पा तथा समकालीन ताम्राश्म संस्कृतियाँ
(3) वैदिक यूग

इकाई-2 (1) महाजन पद युग
(2) मगध साम्राज्य का उत्कर्ष

इकाई-3 (1) सिकन्दर का आक्रमण और उसके प्रभाव
(2) मौर्य साम्राज्य का उत्थान और उसके प्रभाव

इकाई-4 (1) हिन्द-यूनानी
(2) शुंग
(3) सातवाहन
(4) शक-क्षत्रप, पार्थियन
(5) खारवेल

इकाई-5 (1) संगम युग
(2) कुषाण
(3) मालव, यौधेय, अर्जुनायन तथा औदुम्बर
(4) नागवंश

सहायक ग्रंथ :

1. एच. सी. रायचौधरी - प्राचीन भारत का राजनीतिक इतिहास
2. के. ए. नीलकंठ शास्त्री - दक्षिण भारत का इतिहास
3. कृष्णदत्त बाजपेयी तथा विमलचंद्र पांडेय - प्राचीन भारत का इतिहास
4. विमल चन्द्र पांडेय - प्राचीन भारत का राजनीति तथा सांस्कृतिक इतिहास-भाग एक
5. किरण कुमार थप्याल - सैंधव सभ्यता
6. गुलाम याजदानी (संपा.) - दकन का इतिहास
7. राजबली पाण्डेय - प्राचीन भारत
8. H.C. Roychoudhary - Political History of Ancient India
9. R.C. Majumdar (Ed) - The Age of Imperial Unity
10. Romlia Thaper - History of India
11. K.A. Nilkanta Shastry - History of South India.
12 व्ही.डी.झा, सुष्मिता पाण्डेय, डॉ ओम प्रकाश - Ashoka and the declaim of Mourya empire.

द्वितीय : प्रश्न-पत्र

प्राचीन भारतीय सामाजिक तथा अर्थिक संस्थाएं (पेपर कोड-0134) पूर्णांक : 75

उद्देश्य : इस पाठ्यक्रम का उद्देश्य प्राचीन भारत की सामाजिक तथा अर्थिक संस्थाओं का सामान्य ज्ञान कराना है ।

इकाई-1 (1) वर्ण एवं जाति
(2) आश्रम व्यवस्था
(3) पुरूषार्थ चतुष्टय
(4) पंचमहायज्ञ

इकाई-2 (1) संस्कार
(2) विवाह तथा उसके प्रकार
(3) परिवार की उत्पत्ति तथा महत्व, संयुक्त परिवार, पिता, माता तथा पुत्र की स्थिति, पुत्रों के प्रकार

इकाई-3 (1) नारियों की स्थिति
(2) शिक्षा-उद्देश्य, आदर्श, उपलब्धियाँ तथा प्रमुख शिक्षा केन्द्र

इकाई-4 (1) वैदिक काल से 600 ई.पू. तक की आर्थिक दशा
(2) श्रेणियों का संगठन और कार्य
(3) 600 ई. पू. से 319 इ. तक की आर्थिक दशा

इकाई- 5 (1) 319 ई. से 1200 ई. तक की आर्थिक दशा
(2) आंतरिक और बाह्य व्यापारिक मार्ग

सहायक ग्रंथ :

1. मनोरमा जौहरी – प्राचीन भारतीय वर्णाश्रम व्यवस्था
2. जयशंकर मिश्र – भारत का सामाजिक इतिहास
3. के. सी. जैन – प्राचीन भारतीय सामाजिक तथा आर्थिक संस्थाएं
4. राजबली पांडेय – हिन्दू संस्कार
5. हरिदत्त वेदालंकार – हिन्दू परिवार मीमांसा
6. ए. एस. अल्तेकर – प्राचीन भारत में नारियों की स्थिति
7. आर. एस. शर्मा – प्राचीन भारत में शुद्रों की स्थिति
8. ए. एस. अल्तेकर – प्राचीन भारतीय शिक्षण पद्धति
9. रमेशचन्द्र मजुमदार (अनु. कृष्णदत्त बाजपेयी) – प्राचीन भारत में संगठित जीवन
10. मोतीचन्द्र – सार्थवाह
11. कृष्णदत्त बाजपेयी – भारतीय व्यापार का इतिहास
12. कृष्णदत्त बाजपेयी – प्राचीन भारत का विदेशों में संबंध
13. आर. एस. शर्मा – पूर्व मध्यकालीन भारत में सामाजिक परिवर्तन
14. डॉ. चन्द्रदेव सिंह – प्राचीन भारतीय समाज और चिन्तन
15. सुस्मिता पाण्डेय – समाज, आर्थिक व्यवस्था एवम् धर्म
16. P.N. Prabhu - Hindu Social Organization
17. S.K. Maity - The Economic life of Northern India in the Gupta period
18. L. Gopal - Economic life of Northern India
19. D. R. Das - Economic History of the Decan
20. शिव स्वरूप सहसा – प्राचीन भारतीय सामाजिक, आर्थिक संस्थाएँ

DEFENCE - STUDIES

PAPER - I

INDIAN MILITARY HISRORY M.M. 50

(Paper Code-0143)

AIM : The main idea behind this paper is to give a conceptual background about the events and factors which infleenced course of history and helped in developing the art of war in India.

Note : Questions will be set from each unit, There will be only internal choice.

UNIT-1
1. The definition and scope of Defence Studies and its relationship with other subjects.
2. Art of war of Epic and Puranic period.
3. Comparative study of lndo-Greek art of war with special reference to the Battle of Hydaspus 326 B.C.
4. Mauryan Military system and art of war.

UNIT-2
1. Kautilya's Philosophy of war.
2. Gupta's military system and art of war.
3. Military system of Harshavardhan.
4. Dicline of Chariots and Importance of Elephant and Cavalory.

UNIT-3
1. Mughal military system.
2. Rajput and Turk pattern of warfare with specil of reference to Battle of Somnath and Battle of Tarain up to 12th century A.D.
3. Causes of the fall pf Rajput Military system.
4. Army organization during Sultanate period.
5. Battle of Panipat 1526 A.D. and Battle of Haldighati 1576 A.D.

UNIT-4
1. Maratha Military system.
2. Warfare of Shivaji.
3. Battle of Assaye 1803 A.D.
4. Sikh Military system.
5. Battle of Sobraon 1846 A.D

UNIT-5
1. 1857 Liberation Movement.
2. Reorganizations of Indian Army under the Crown.
3. Nationalization of, Indian Army after independence.
4. Military reforms of Lord Kitchner's.

READING LIST :

1.	Military System of Anciant India	:	B.K. Majumdar
2.	Generalship of Alexander the Great	:	J.F.C.Fuller
3.	Kautilya Arthashastra	:	K.P. Kanbley
4.	Military history of India	:	J.N. Sarkar

PAPER - II

DEFENCE MECHANISM OF THE MODERN STATE

(Paper Code-0144)

AIM : To enable students to appreciate the importance of higher political direction in the formulation of national defence policy and roles as political and military leadership in furthering national security.

Note : Question will be from each unit, there will be only internal choice.

UNIT-1
1. Evolution of National defence policy.
2. Inter dependence of Foreign, Defence and Economics policies.
3. Higher defence organization of U.S.A., U.K. and RUSSIA.
4. Higher defence organization of CHINA, PAKISTAN and NATO.

UNIT-2
1. Higher defence organization in India.
2. Powers of President and relation to Armed forces.
3. Parliament and the Armed forces.
4. Defence (Political affair) committee of the cabinet. Its composition, methods of working during war and peace.
5. National Defence Council and its Valiant.

UNIT-3
1. Organization of Ministry of Defence.
2. Organization of Army head quarter.
3. Organization of Naval head quarter.
4. Orgatiization of Air head quarter.

UNIT-4
1. Organization and role of Para-militaty forces - B.S.F., I.T.B.P., C.I.S.F. etc.
2. Organization and role of Intelligence Agencies - RAW, CBI, CID., IB etc.
3. Military Intelligence.
4. Role of N.C.C. in preparing youth for Defence services.

UNIT-5
1. Organization of Civil - defence.
2. Importance and role of civil defence during war and peace.
3. Air-Raid signal and precaution before and after bombardment.
3. Role of Indian armed forces in war and peace.

READING LIST :

1. Indian Army, A Sketch of its History & Organisation : E.H.E. Choen
2. Defence Organization in India : Venkateshwarm

PRACTICAL

M.M. : 50

There shall be practicall examination ot 3 hours duration and carying 50 marks. The distribution of marks shall be as follows -

1. Exercises based on Map reading : 20 Marks
2. Exercises based on models : 10 Marks

3. Sessional Work and Record : 10 marks

4. Viva-Voce : 10 marks,

PART - A

ELEMENTARY MAP READING

1. Maps- Difination, types, Marginal Information.
2. Conventional signs - Military and Geographical.
3. Direction and cardinal points.
4. Types of North, Angle of Convergence.
5. Study of Liquid compass, its parts, various tactical uses and preparation of Night navigation chart.
6. service Protractor and its uses.
7. To find North by Compass, Watch, Sun, Stars etc.
8. Bearing and interconversion of bearing.
9. Setting of Map.
10. Grid System.

PART - B

RECOGNITION & ELEMENTRY STUDY OF FOLLOWING MODELS

1. equivalent Rank and Badges of Indian Army, Navy and Air Force.
2. Famous Armoured vehicles used in war.
3. Weapons used in Infantry.
4. Various Ships of Indian Navy.
5. Famous Air-Crafts Used by Air-Force.

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पाठ्यक्रम उर्दू निसाब

नोट : इस इम्तेहान में दो पर्चे होंगे । हर पर्चे में 75 नम्बर पर मुशतमिल होगा ।
(1) नस्र (2) नज्म ।

पहला पर्चा

नस्र (पेपर कोड-0129)

(सवानेह, खाके, इन्शाईये)

निसाब

(1) सवानेह :

1. गालिब के सवानेही हालात : ''यादगारे गालिब'' के मुसन्निफ अल्ताफ हुसैन हाली
2. शिब्ली की बेनियाजी और खुद्दारी : ''हयाते शिब्ली'' से सैयद सुलेमान नदवी
3. नजीर अहमद की कहानी : ''कुछ मेरी, कुछ उनकी जबानी'' मुसन्निव फरहत उल्ला बेग

(2) खाके :

1. नामदेव माली : चन्द हम अस्र से मुसन्निव मौलवा अब्दुल हक
2. हकीम अजमल खाँ : ''खिमालिस्तान'' सज्जाद हदर यलद्रम
3. अकबर इलाहाबादी : इन्शाएँ माजिद हिस्सा-2, मुसन्निफ अब्दुल माजिद दरयावादी
4. जिगर साहब : ''साहब'' से मुसन्निफ मोहम्मद तुफैल
5. मौलाना अब्दुल कलाम आजाद : ''अब्दुल कलाम आजाद'' से मुसन्निफ मुलामुस्सयदेन

(3) इन्शाईये :

1. तास्सुब : ''मजामीने सर सैयद'' सर सैयद
2. मुझे मेरे दोस्तों से बचाओ : ''खिमालिस्तान'' सज्जाद हदर यलद्रम
3. शहजादे का बाजार में घिसटना : गदरे देहली के अफसाने सुसन्निफ ख्वाजा सहन निजामी
4. सबेरे जो कल ऑख मेरी खुली : ''मजामीने पितरस'' अज पितरस बुखारी
5. बरसात : निगारिस्तान अज नियाज फतहपुरी
6. शायर होना क्या माने रखता है : अज रशीद अहमद सिद्दीकी

पर्चा प्रथम

नोट : मुन्दरजा बाला पर्चा पाँच इकाईयों में तफसीम होगा ।

इकाई-1
1. सवाने, निगारी, खाका निगारी और इन्शाईया निगारी पर सवालात । 15 नम्बर
2. शामिले निसाब हसबाफ पर सवालात 15 नम्बर
3. शामिले निसाब खाकों पर सवालात 15 नम्बर
4. शामिले निसाब इन्शाईयों पर सवालात 15 नम्बर
5. शामिले निसाब असबाफ सवानेही और इन्शाईयों में इक्तेबासात की तशरीह 15 नम्बर

पर्चा द्वितीय (शायरी)

गजलियात (पेपर कोड-0130)

निसाब :

(1) बली :
1. याद करना हर घड़ी उस यार का
2. शराबे शौक से सरशार हैं हम

(2)	मीर तकी मीर	:	1. उल्टी हो गई सब तदवीरे
			2. मुँह तकाही करें है जिस तिस का
(3)	गालिब	:	1. दिल ही तो है न संगो खिश्त दर्द से भर न आए क्यो
			2. यह न थी हमारी किस्मत के विसाले यार होता
(4)	मौमिन	:	1. अगर उसकी जरा नहीं होता
			2. गैरो पे खुल न जाएँ कही राज देखना
(5)	आतिश	:	1. मगर उशको फरेबे नर्गिसे मस्ताना आता है
			2. हवाएँ दौरे गए खुशगवार राह में है
(6)	दाग देहलवी	:	1. खातिर से या खअयाल से मैं मान तो गया
			2. गाब किया तेरे बादे पे एतेवार किया
(7)	सिरज मीर खाँ सैंहर	:	1. सोने में दिल है दिल में दाग
			2. वक्ते जिबाह मुँह फिर फिर गया शमशीरे कातिल का
(8)	डॉ. इकबाल	:	1. कभी ऐ हकीकते मुसुन्तजिर नजर आ लिबासे गजाज में
			2. फिर चरागे लाबा से रोशन हुए कोहो दमन
(9)	हसरत मौहानी	:	1. रस्मे जफा कामयाब देखिये कब तक रहे
			2. हुस्ने बे परवा को कुद बीन खुद आरा कर दिया
(10)	फानी बदायूरी	:	1. खल्क कहती है जिसे दिल तेरे दीवाने का
			2. दुनियाँ मैरा बला जाने मेंहगी है के सस्ती है
(11)	जिगर मुरादाबादी	:	1. दिल गया रोनके हयात गई
			2. सेहले खिरद ने दिन यह दिखाएँ
(12)	फराक गौरखपुरी	:	1. निगारे नाज ने पर्दे उठाए है क्या-क्या
			2. बहुत पहले से उन कदमों की आहट जान लेते है
(13)	मजरूह सुल्तान पुरी	:	1. जला के मशअले जॉ हम जुन सिफात चले
			2. मुझे सहल हो गई मंन्जिले
(14)	ताज भोपाली	:	1. मै हूँ गदाए हुस्न न यूँ हॅस के टाल दे
			2. है अजब भीड़ भाड़ सड़कों पर
(15)	जॉ निसार अख्तर	:	1. हम से भागा न करो दूर गजालो की तरह
			2. न ख्वाब, खलिश न खुमार यह आदमी तो कोई सानेहा लगे है मुझे
(16)	खलील उर्रेहमान आजंमी	:	1. हम जिन्दगी के साज पे गाते रहे नगमा तेरा
			2. मै सूने मकान का दिया हूं
(17)	फजला ताबिशं	:	1. एक दो धोखे हो तो यारो दिल रखने को खा भी लो
			2. न कर शुमार के हर शै गिनी नहीं आती

इकाईयाँ : इकाई नं.

1.	गजल से मुताल्लिक सवालात	15 नम्बर
2.	कदीम शुअरा पर तन्कीदी सवालात	15 नम्बर
3.	जदीद गजल गो शुअरा पर सावालात	15 नम्बर
4.	कदीम गजल गो शुअरा के अशआर की तशरीह	15 नम्बर
5.	जदीद गजल गो शुअरा के अशआरकी तशरीह	15 नम्बर

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HOME SCIENCE

PAPER - I

ANATOMY PHYSIOLOGY & HYGIENE M.M. : 50

(Paper Code-0121)

UNIT-1 Structure & functions of cell general introduction of Tissue and their functions skeletal system - Types of bones, classification general structure & functions of bones. Muscular system - General structure, types and function.

UNIT-2 Circulatory system - General structure of organs and functions. composition of blood & function. Respiratory system - General structure of organs and functions.

UNIT-3 Digestive system - General introduction of Nutrients, Liver and spleen organs of digestion their general structure and function. Excretory system- organs of excretion.

Kidney & skin - structure & function.

UNIT-4 Nervous system - Central nervous system structure and function.

Senses and Sensory organs - ear and eye structure & function.

UNIT-5 Hygiene - Personal Hygiene

social Hygiene

Enviromental and Industrial Hygiene

Water - its importance and purification.

Air - its importance and purification.

First aid home nursing - Principles, qualities of nurse, Responsibilities, selection of sick room. care of the patient. Some common accidents and their aid, poision, bleeding, Burns and scalds, fracture sprain, dislocation.

प्रायोगिक

कुल समय 3 घंटे **कुल अंक- 50**

अंको का विभाजन

1.	सेशनल	10
2.	प्राथमिक उपचार	10
3.	गृह परिचर्या	15
4.	शरीर रचना एवं स्वास्थ्य विज्ञान	15

सेशनल : (परीक्षा के समय छात्राऐं प्रायोगिक नेट बुक एवं प्राथमिक उपचार पेटी जमा करें) ।

प्रयोग क्रमांक-1 रिपोर्ट : कालेज की कक्षाओं का प्रतिदिन की सफाई एवं वायुविजन संबंधित निरीक्षण ।

प्रयोग क्रमाक-2 स्वयं के परिवार में पीने के पानी के प्रति के साधन, संग्रह के प्रकार एवं साधन पानी की शुद्ध एवं स्वच्छता के लिये प्रयुक्त विधि ।

प्रयोग क्रमांक-3 रिपोर्ट : स्वयं के परिवार एवं अन्य दो पड़ोसी परिवार के घर में अगस्त से दिसम्बर (अनुमानत: पांच महीने) के दौरान हुई बीमारियों के संबंध में जानकारी ।

1. रोग का नाम ।
2. प्राथमिक उपचार - जो दिया गया ।
3. आहार (जो उपयोग में लाया गया) ।

प्रयोग क्रमांक-4 प्राथमिक उपचार पेटी (आवश्यक सामान)

1. घाव धोने एवं बांधने का सामान ।
2. दर्द कम करने की दवाईयाँ ।
3. अपाचन - में प्रयुक्त दवाईयाँ ।

प्राथमिक उपचार पेटी छात्राएँ परीक्षा के समय अपना नाम एवं परिवार के सदस्यों की संख्या लिखकर प्रस्तुत करें ।

प्रयोग क्रमांक-5 रोगी के लिये उपचारात्मक व्यंजनों का अध्यापक द्वारा करके बताना ।

1. सब्जियों का सूप ।
2. दाल का सूप ।
3. उबला अंडा ।
4. फटे दूध का पानी (व्हे वाटर) ।
5. सब्जी एवं फलों का स्टू (फल्श्रल्लीड्यल्लीछश्र श्रड्डुट्टरू क्ल्ज्ञ).

इन व्यंजनों की विधि एवं उपयोगिता नोट बुक में अंकित की जावेगी ।

प्रयोग क्रमांक-6 प्राथमिक उपचार

1. विभिन्न प्रकार की पट्टियाँ (तिकोनी, गोल) ।
2. घाव की देखभाल ।
3. कृत्रिम श्वसन ।

प्रयोग क्रमांक-7 गृह परिचर्चा

1. शरीर के तापमान का चार्ट
2. गरम एवं ठंडे पानी की थैली तैयार करना ।
3. बिस्तर लगाना / चद्दर बदलना ।

प्रयोग क्रमांक-8 दृष्य श्रव्य यंत्र का बनाना ।

महत्वपूर्ण निर्देश- प्रयोग क्रमांक 1, 2, 3, तथा 5 की रिपोर्ट छात्राओं द्वारा प्रायोगिक नोट बुक में लिखकर एवं अध्यापक द्वारा प्रति हस्ताक्षरित / प्रमाणित करवाकर परीक्षा के समय प्रस्तुत की जावेगी ।

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HOME SCIENCE

Paper - II

HOME SCIENCE - EXTENSION EDUCATION

(Paper Code-0122)

UNIT-1 Introduction of Home Science Extension Education :

(A) Home Scince - Concepts, goals and Areas of Home Science & their inter relationship with extension.

(b) Principles and methods of home science extension education general concepts of extension work.

(c) Objectives of extension educatuoin qualities of extension workers, extension education process.

UNIT-2 Community Development problems and Role of Home Scientists :

(A) Principles of community development organization and function of community development.

(B) Role of home scientists in community development, programmes of extension education for community. programmes of community development at central, state, district, block and village level.

Family plalnning programme.

Community problems, child marriage, Dowery system, parda pratha, rural indibtendness unemployment.

UNIT-3 Teaching methods & aids :

Methods of learning - Discussion, demonstration, observation and their applecation to home science teaching.

Extension Methods - their scope advantages and application.scope and use in Home Science teaching

Extension Methods - their scope advantages and application.

UNIT-4 Attitude towards Home Science :

Attitudes towards Home Science, Motivation towards Home Science. Applecation of Home Science towards improvement in family living. Job opportunities in Home Science National and International agencies and their collaboration with Home Science, Official organization Home Science Association of India, W.H.O. FAG, CARE, ICAR, ICDS, ICSSR, ICMR, IRDP, Adult education.

UNIT-5 Curriculum Planning in Home Science :

Basic concept of curriculum planning components of curriculum planning imple mentation evoluation and improvement required in the existing system of H.Sc. education policy and its relevance to H.Sc. Programme planning-concept, prin ciples objectives and steps in programme planning.

REFERENCE :

1. Extension education and community development by Dhama O. P.
2. Co-operative Extension Work by Kelsey, L.D. and Heame C. R.
3. Extension education, Shri Lakshmi press by Reddy A. A.
4. An Introduction to programme evaluation John Wiley
- Fracklin, J. K. & Thrashe / J.H.

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INSURANCE PRINCIPAL & PRACTICE (Paper Code-0139)

PAPER - I

LIFE INSURANCE : **M.M. : 50**

UNIT-1 **Introduction :**

Need for security against economic difficulties, Risk and uncertinty, Individual value system, Individual, Life Insurance Nature and uses of Life Insurance, Life Insurance as a collateral, as a measure of financing business continuation, as a protection to property, as a measure of investment.

UNIT-2 **Life Insurance Contract :**

Distinguishing characteristics, Utmost Good Faith, Insurable Interest, Caveat Emptor, Unilateral and alleatory nature of contract, proposal and application form, Warranties Medical examination, policy construction and delivery, policy provision, lapse revival, surrender value, paid-up policies, maturity, nomination and assignment. Suicide and payment of insured amount, Loan, to policy holders.

UNIT-3 **Life Insurance Risk :**

Factors governing sum assured, Methods of calculating economic risk in life insurance proposal. Measurement of risk and mortality table, Calculation of Premium, Treatment of sub-standard risks. Life Insurance Fund, valuation and investment of surplus, Payment of bonus.

UNIT-4 **Life Insurance Policies :**

Types and their applicability to different. Situations, Important life Insurance Policies issued by the life Insurance Corporation of India. Life Insurance annuities. Important legal provisions and judicial pronouncements in India.

UNIT-5 **Life Insurance Salesmanship :**

Rules of agancy Essential qualities of an ideal insurance salesman, Rules to canvass business from prospective customers, After-sale service to policy holders.

GENERAL INSURANCE (Paper Code-0140)

PAPER - II **M.M. : 50**

UNIT-1 1. Introduction to risk and insurance.

(A) Risk (B) The treatment of Risk

2. The structure and operation of the insurance business.

UNIT-2 (a) Insurance contract fundamentals.

(b) Insurance marketing.

(c) Insurance loss payment.

(d) Underwriting, rating, reinsurance, and other functions.

UNIT-3 General Insurance corporation and other Insurance institutions.

Working of GIC in India; Types of risks assumed and specific policies issued by ECGC.

UNIT-4 **Health Insurance :**

(a) Individual health insurance.

(b) Group health insurance.

UNIT-5 (a) Motor Insurance.

(b) Multiple line and all lines Insurance such as rural Insu-rance - Hull Insurance- etc.

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FUNTIONAL ENGLISH

(Paper Code-0137)

PAPER - I **M.M. : 50**

UNIT-1 (a) Linguastics and Phonetics.
(b) Phonology.

UNIT-2 (a) The Organs of Speech
(b) Speech Sounds - Vovels and Consonants

UNIT-3 Consonant Clusters in English

UNIT-4 Phonetic symbols

UNIT-5 Transcriptions

Based on a text of English Phonetics for Indian students by Bal-sybramanium.

FUNTIONAL ENGLISH

(Paper Code-0138)

PAPER - II **M.M. : 50**

UNIT-1 Articles, Parts of Speech, Linking Verbs Nagative sentences.

UNIT-2 Questions, Agreement of verb and subject, Transitive and Intrasitive regular and in-regular verbs.

UNIT-3 Tenses

UNIT-4 Question Tags, Transformetin Active and Passive Voice, Direct and Indirects Speech.

UNIt-5 Common Errors in English.

Based on F.T. words Grammer

VIVA - VOCE **M.M. 50**

SYALLABUS FOR THEORY AND PRACTICAL

(Drawing and painting)

B.A. (Drawing and painting) course is divided into three parts : B.A. 1st year, B.A. IInd year, B.A. III Year, all Examination is conducted by University for all class Maximum marks will be 150 the three parts details are as under :-

THEORY FUNDAMENTAL OF PAINTING (ART)

The time of theory paper is three hours **M.M. : 50**

1. Defination of Art
2. Classificaction of Art
3. Elements of painting - Line, Form, Colour, Tone, Texture, Space.
4. Shadang - Rupa Veda, Pramanani, Bhava, Labanya, Yojan, Sadrusya, Varnika Bhang.

BOOK RECOMMENDED :

1. Still life Painting - Richmend.
2. Akar Kalpna - Ranbir Saxana
3. Chirta Sayanjan - P. N. Choyal
4. Kala ke mull Tatya - Dr. C. L. Jha

PRACTICAL

There will be Two Practical Paper Evalution will be made by the external and the internal examiners. Together, and Sessional Marking is made by the class Teacher.

* The time of each paper is four hour's and there will be a half hour's recess in between.

STILL LIFE

(Paper Code-0150)

PAPER - I

Scheme of Examination — Total Mark - 50
Time - 4 Hours — Exmination - 40
Paper - 1/4 Imp Size — Sessional - 10
Meldium - Water Colour
Sessional - Mark 10
Class Work - Minimum work to be Submitted. Five Paining Size 1/4 IMP
Any type of still object will be dreown books, flower pot's Frouts etc.

BASIC DESING

(Paper Code-0150 A)

PAPER - II

Scheme of Examination — Total Mark - 50
Time - 4 Hours — Exmination - 40
Paper - 1/4 Imp Size — Sessional - 10
Meldium - Water Colour or Poster Colour
Sessional - Mark 10
Class Work - Minimum work to be Submitted. Five Paining Size 1/4 IMP
Form of netural element and object will be decoreted and repeated. Form like Flower, leaf, fruits, pot. Boll and Geometrial desing will be drown and painted with water colour and poster colour.

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B.A. EDUCATION PART - I

PAPER - I

EDUCATION AND SOCIETY **M.M. 75**

(Paper Code-0123)

COURSE OBJECTIVES

To enable the students to understand -

1. The general aims of Education alongwith Nature types and Scope of educations.
2. Meaning of Major Philosophies of education and function of education.
3. Meaning of curriculum and its Planning and Construction.
4. The Importance of Play and activity oriented education and Modern Methods of Teaching.
5. Specific aims of education as per the present day needs.

UNIT-1
- Nature and Scope of Education, Education as a Science, Education as a Social Process, Factors of Education.
- Aims of Education-Individual, Social, Vocational and Democratic.
- Formal, informal and non formal agencies of education, Relation between School and Society.

UNIT-2
- School a Miniature Society.

- Education and State-To talitarian and Democratic concepts, State Control over Education, Nature.
- Centralization and Decentralization.

UNIT-3
- Curriculum definition, Types of Curricula. Principles of Curriculum Construction, Child Centred and Life Centred Curricula.
- Co-Curricular activities.
- Education and Craft, Principle of Basic Education.

UNIT-4
- Freedom and Discipline, Need of discipline in and out of school, discipline and Order, Free discipline.
- Value Education, MEaning of Human Values. Their development, Some Transactional Strategies.

UNIT-5
- Education for National Integration, I nternational understanding and education for Human resource development, Education for Licture.
- Secularism and Education.

Shiksha Sidhant - Pathak and Tyagi - Vinod Pustak Mandir, Agra.

PAPER - II

PROBLEMS OF EDUCATION

M.M. 75

(Paper Code-0124)

UNIT-1
- Problems and suggestions for improvement in Primary Educn.
- Problems and suggestions for improvement in Secondary Educn.

UNIT-2
- Problems and Suggestions for improvement in Higher Educn.
- Problems and Suggestions for improvement in Teacher Educn.

UNIT-3
- Problems and Suggestions for improvement in Women Educn.
- Problems and Suggestions for improvement in Adult Educn.

UNIT-4
- Problems and Suggestions for improvement in Technical Education.
- Problems and Suggestions for improvement in Distance Education.

UNIT-5
- Problems and Suggestions for improvement in Population Education.
- Problems and Suggestions for improvement in Environmental Education.

BOOK RECOMMENDED :

1. A. Mishra - The Financing of Indian Education.
2. Nurullah and Naik - A History of Education in India.
3. S. N. Mukherjee - Education in India Today and Tomorrow.
4. K.G. Saiyad - Problems of Education Reconstruction.
5. Mahatma Gandhi - Our Language Problems.
6. S.R. Dongerkerry - University and their Problems.
7. R.V. Parulacker - Literacy in India.
8. G. Ghaurasia - New Era in Teacher Education.
9. J.P. Naik - Education Planning in India.
10. J.C. Agrawal - Progress of Education in India.

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ORDINANCE NO. - 12

BACHELOR OF ARTS - CLASSICS

1. The three year course has been broken up into three Parts, Part-I known as B.A.Classics Part-I Examination at the and of the First year, Part-II known as B.A. Classics Part-II examination at the end of the Second year and Part-III known as B.A. Classics Part-III examination at the end of the Third year.
2. A candidate who, after passing (10+2) or Intermediate Examination of C.G. Board of Secondary Education, Raipur or any other Examination recongnised by the University or C.G. Board of Secondary Education as equivalent there to has attended a regular course of study in an affiliated College or in the teaching department of the University for one academic year, shall be eligible for appearing at B.A. Classics Part-I examination.
3. A candidate who, after passing B.A. Classics Part I examination of the University, has attended a regular course of study for one academic year in an affiliated college or in the teaching department of the University, shall be eligible for appearing at the B.A. Classics Part-II Examination.
4. A candidate who, after passing the B.A. Classics Part-II examination of the University, has completed a regular course of study for one academic year in an affiliated college or in the Teaching department of the University, shall be eligible for appearing at the B.A. Classics Part-III examination.
5. Besides regular students and subject to their compliance with this Ordinance, ex-students and non-collegiate candidates shall be eligible for admission to the examination as per provisions of Ordinance No. 6 relating to Examinations (General). Provided that non-collegiate candidate shall be permitted to offer only those subjects/papers as are taught to the regular students at any of the University Teaching Department or College.
6. Every candidate for the Bachelor of Arts classics Examination shall be examined in:
   - A- Language Components :
     - (1) Hindi Language
     - (2) Sanskrit Language or English Language.
   - B- Compulsory- 1. Vyakaran, 2. Sahityam.
   - C- Any one of the following branches of studies-

1. Veda	2. Vyakaranam	3. Sahityam
4. Darshanam	5. Puranam	6. Jyotisham
7. Dharmashastram	8. Niruktam	

   - D- Any one of the following branches of studies :

1. English Literature	2. Hindi Literature	3. Economics
4. History	5. Political Science	

   - E- Practical (if necessary) for each core subject.
   - F- Viva voce in Sanskrit subject at the final examination (i.e. Part-III)

NOTE : Syllabus (E) will be common as prescribed by UGC (Part I, II, III)

7. Any candidate who has passed B.A. Classics Examination of the University shall be allowed to present himself for examination in any of the additional subjects prescribed for B.A. Classics examination and not taken at the Degree examination. Such candidate will have to first appear and pass B.A. Classics Part I & Part-II examination in the subject which he proposes to offer and then the B.A. Classics Part-III examination in the same subject. Successful candidates will be given a certificate to that effect.

8. In order to pass at any part of the three year degree course examination an examinee must obtain not less than 33% of the total marks in each subject/group of subjcets. In groups where both theory and practical examinations are provided an examinee must pass in both theory and practical part of the examination separately.

9. Candidates will have to pass separately to the B.A. Classics Part-I, Part-II and Part-III examinations. No division shall be assigned on the result of Part-I and II examinations. The division in which a candidate is placed at the Part-III examination shall be determined on the basis of the aggregate of total marks obtained in the part I, II and III examinations. Provided in case a candidate who has passed the B.A. Classics Part I &II examination through the Supplementary Examination having failed in one subject only, the total aggregate marks for being carried over for determining the division shall include actual marks obtained in the subject in which he appeared at Supplementary examination.

10. Successful examinees at the Part-III examination obtaining 60% or more marks shall be placed in the First Division. Those obtaining less than 60% but not less than 45% marks in the Second Division and other successful examinees in the Third Division.

बी.ए. क्लासिक्स भाग - 1

अंक विभाजनम्

विषया (1)	पत्रम (2)	पूर्णांक (3)	आवश्यक (4)	प्राप्तांक (5)
(अ) अनिवार्य विषय: (आधार पाठ्यक्रम:)				
1. हिन्दी भाषा		75	150	50
2. अंग्रेजी भाषा / संस्कृत भाषा		75		
नोट : प्रत्येक खंड में से 2 (दो) प्रश्न हल करने होंगे । सभी प्रश्न समान अंक के होंगे ।				
(अ) अनिवार्य विषय द्वितीय :				
1. व्याकरण मनुवादश्च	पत्रम् - 1	75	150	50
2. साहित्यम्	पत्रम् - 2	75		
(इ) वैकल्पिक विषय : प्रथम (एक एव ग्राह्य:)				
1. वेद:	पत्रम् - 1	75	150	50
वेद:	पत्रम् - 2	75		
2. व्याकरणम्	पत्रम् - 1	75	150	50
व्याकरणम्	पत्रम् - 2	75		
3. साहित्यम्	पत्रम् - 1	75	150	50
साहित्यम्	पत्रम् - 2	75		
4. दर्शनम्	पत्रम् - 1	75	150	50
दर्शनम्	पत्रम् - 2	75		
5. ज्योतिषम्	पत्रम् - 1	75	150	50
ज्योतिषम्	पत्रम् - 2	75		
6. पुराणेतिहास:	पत्रम् - 1	75	150	50
पुराणेतिहास:	पत्रम् - 2	75		

विषया (1)	पत्रम (2)	पूर्णांक (3)	आवश्यक (4)	प्राप्तांक (5)
7. धर्मशास्त्रम्	पत्रम् - 1	75	150	50
धर्मशास्त्रम्	पत्रम् - 2	75		
8. निरुक्तम्	पत्रम् - 1	75	150	50
निरुक्तम्	पत्रम् - 2	75		
(ई) वैकल्पिक विषय (एक एव ग्राह्य:)				
1. हिन्दी साहित्यम्	पत्रम् - 1	75	150	50
हिन्दी साहित्यम्	पत्रम् - 2	75		
2. अंग्रेजी साहित्यम्	पत्रम् - 1	75	150	50
अंग्रेजी साहित्यम्	पत्रम् - 2	75		
3. अर्थ शास्त्रम्	पत्रम् - 1	75	150	50
अर्थशास्त्रम्	पत्रम् - 2	75		
4. इतिहास:	पत्रम् - 1	75	150	50
इतिहास:	पत्रम् - 2	75		
5. राजनीतिशास्त्रम्	पत्रम् - 1	75	150	50
राजनीतिशास्त्रम्	पत्रम् - 2	75		

(क) अत्र परीक्षाया: चत्वारो विषया: अष्ट प्रश्न पत्राणि च भविष्यन्ति ।

(ख) द्वौ विषयौ अनिवार्यौ भविष्यत: अपरौ बैकल्पिकौ भविष्यत: ।

(ग) प्रथमे अनिवार्य-विषये प्रथमं पत्रं साहित्यस्य द्वितीयं च व्याकरणानुवादयो: भविष्यति ।

(ड) प्रथमे वैकल्पिके विषय-वेद-व्याकरण-साहित्य-दर्शन-ज्योतिष-पुराणेतिहास:-धर्मशास्त्र-निरूक्त विषयेषु एक एव ग्राह्य: तस्य द्वे प्रश्न-पत्रे भविष्यत: ।

(च) द्वितीय वैकल्पिक विषय हिन्दी साहित्य, अंग्रेजी साहित्य, अर्थ शास्त्र, राजनीतिशास्त्र विषयेषु एक एव विषय: ग्राह्य: तत्रद्वे प्रश्न-पत्रे भविष्यत: ।

(छ) प्रति पत्रम् अंक: पंचसप्तति (आधार पाठ्यक्रम: प्रतिपत्रम्) समयो होरा त्रयम् ।
निर्देशाभावे च उत्तरयितुं संस्कृतभाषा एव प्रयोक्तव्या ।

USE OF CALCULATORS

The Students of Degree/P.G. Classes will be permitted to use of Calculators in the examination hall from annual 1986 examination on the following conditions as per decision of the standing committee of the Academic Council at its meeting held on 31-1-1986 -

1. Student will bring their own Calculators.
2. Calculators will not be provided either by the University or examination centres.
3. Calculators with, memoty and following variables be permitted +, -, x, ¸ square, reciprocal, expotentials log, square root, trignometric functions, wize, sine, cosine, tangent etc. factiorial summation, xy, yx and in the light of objective approval of merits and demerits of the viva only will be allowed.

बी.ए. क्लासिक्स (प्राच्यपद्धति) भाग - एक (कोड-061)

(अनिर्वाय विषयः)

1. हिन्दी भाषा
2. संस्कृत भाषा / अंग्रेजी भाषा

संस्कृत भाषा **(पेपर कोड-0691)** **अंकाः 75**

(1) नीतिशतकम् (भर्तृहरिविरचितम्) अंकाः 50

(2) व्युत्पत्तिः (अनुवादः, वाक्यशुद्धिः, पर्यायाः) अंकाः 25

सहायक ग्रन्थाः

प्रारंभिक रचनानुवाद कौमुदी (1-10 पर्यन्तम्)

लेखक - कपिल देव द्विवेदी, प्रकाशक - विश्वविद्यालय प्रकाशन, वाराणसी ।

अनिवार्य विषयः

प्रथमं : प्रश्न-पत्रम्

साहित्यम् (पेपर कोड-0692) **अंकाः 75**

(1) स्वप्नवासवदत्तम् - महाकविभास रचितम् अंकाः 30

(2) पंचतन्त्रम् (अपरीक्षित, कारके प्रथम कथा पंचकम्) अंकाः 30

(पं. विष्णु शर्मा रचितम्) प्रकाशक राम नारायण लाल बेनी प्रसाद कटरा, इलाहाबाद

(3) संस्कृत साहित्य-इतिहासः (महाकाव्यनां - गद्य काव्यानांचसंक्षिप्तम ज्ञानम् अपेक्षितम्) अंकः - 15

सहायक ग्रन्थाः

(1) संस्कृत साहित्य का इतिहास- पं. बलदेव उपाध्याय, प्रकाशक- शारदा प्रकाशन, वाराणसी ।

(2) संस्कृत साहित्य का इतिहास- रामजी उपाध्याय, प्रकाशक- रामनारायण बेनी माधव, कटरा-इलाहाबाद।

द्वितीयं : प्रश्न-पत्रम्

व्याकरणम् (पेपर कोड-0693) **अंकः 75**

(1) मध्य सिद्धान्त कौमुदी (वरदराज रचित) अंकः - 60

आदितः अव्यय प्रकरणान्तम्

प्रकाशक - मोतीलाल बनारसीदास, नई दिल्ली ।

(2) रचनानुवाद कौमुदी (पाठ : 1-20 पर्यन्तम्) अंकः - 15

लेखक - डॉ. कपिल देव द्विवेदी, प्रकाशक - विश्वविद्यालय प्रकाशन, वाराणसी ।

वैकल्पिक विषय

(1) वेद :

प्रथमं : प्रश्न-पत्रम् (पेपर कोड-0694) **अंकः 75**

(1) ऋग्वेदतः पाठ्यक्रमांक - (1) मण्डलम् 01, सूक्तम् 89

- (2) मण्डलम् 09, सूक्तम् 12
- (3) मण्डलम् 10, सूक्तम् 121
- (4) मण्डलम् 10, सूक्तम् 191

यजुर्वेदत: पाठ्यक्रमांक: - अध्याय: 31मं. 1 से 16 पर्यन्तम् अपिच शिवसङ्कल्प सूक्तमात्रम् - अध्याय: 22 मं. 22
अर्थवेद: पाठ्यक्रमांक: - प्रथम काण्डस्य - प्रथम - तृतीय सूक्तौ अंका: 40

(2) चरणव्यूह सूत्रम् आचार्य महिधरा कृत (सम्पूर्णम्) अंका: 35

द्वितीयं प्रश्न-पत्रम् (पेपर कोड-0695) **अंका: 75**

(1) निरुक्तम् - (यास्काचार्य प्रणीतम्) प्रथम-द्वितीयौ अध्यायौ अंका: 40

(2) याज्ञवल्क्य शिक्षा (सम्पूर्णम्) अंका: 35

सहायक ग्रंथा: (1) वैदिक वाङ्मय का इतिहास (पं. भगवत दत्त)

(2) व्याकरणम्

प्रथमं : प्रश्न पत्रम् (पेपर कोड-0696) **अंका: 75**

(1) वैयाकरण सिद्धान्त कौमुदी - भट्टोजि दीक्षित प्रणीता
संज्ञा - परिभाषा - च सन्धि: प्रकृतिभाव: हल् सन्धि:
विसर्ग सन्धि:, स्वादि सन्धिश्च ।

सहायक ग्रंथा: (1) संधि - विषय : अजमेर मुद्रणालय : मुद्रित
(2) व्याकरण चंद्रोदय : पं. चारूदेव शास्त्री : पंचम : खण्ड

द्वितीयं : प्रश्न-पत्रम् (पेपर कोड-0697) **अंका: 75**

(1) वैयाकरण सिद्धांत कौमुदी, भट्टोजि दीक्षित प्रणीता
अजन्त पुल्लिंग-स्त्रीलिंग-नपुंसकलिंग
हलन्त-पुल्लिंग स्त्रीलिंग-नपुंसक लिंग
अव्यय प्रकरणानि ।
(सूत्रार्थशब्द साधन-प्रक्रिया स्वरूप : विशेषाध्येयम्)

सहायक ग्रंथा: (1) नामिक : अजमेर मुद्रणालय मुद्रित: ।
(2) अव्ययार्थ निबंधनम् : स्वामी ब्रह्ममुनि परिव्राजम: ।
(3) व्याकरण चंद्रोदय : पं. चारूदेव शास्त्री (चतुर्थ खण्ड)

(3) साहित्यम्

प्रथमं : प्रश्न-पत्रम् (पेपर कोड-0698) **अंका: 75**

(1) चन्द्रलोक (जयदेव प्रणीता) (प्रथम मयूखत: चतुर्थमयूखत पर्यन्तम्) अंका: 40

(2) शिवराज विजय: (प्रथम द्वितीयौ, निश्वासौ) अंका: 35

सहायक ग्रंथा: (1) कवि कण्ठाभरणम् : (क्षेमेन्द्र विरचितम्)
(2) सार्हित्य दर्पणम् : (विश्वनाथ कविराज रचितम्)

द्वितीयं : प्रश्न-पत्रम् (पेपर कोड-0699) **अंका: 75**

(1) रघुवंशम् (कालिदास प्रणीत्) (प्रथम, द्वितीय, तृतीय सर्गा) अंका: 45

(2) छंदासि-आर्या-अनुष्टुप-इंद्रवज्रा अंका: 30
उपजाति-मालिनी-मन्दाकान्ता स्रग्धरा
शिरखरणी शार्दूल-विकिडितम्-द्रुत विलम्बितम् ।

(4) ज्योतिषम्

प्रथमं : प्रश्न-पत्रम् (पेपर कोड-0700) **अंका: 75**

(1) कुण्डलीनिर्माणविषयकं गणितम् - इष्टकालसाधनम्, स्पष्टग्रहसाधनम्, लग्नानयनम्, अंका: 45
भयात-भभोगसाधनम्, विंशोत्तरी दशा - अंतर्दशा-साधनम्, द्वादशभाव-चलित
चक्रसाधनम्, नवमांश-द्रेष्काण साधनं च ।

(2) भारतीय ज्योतिषशास्त्रस्येतिहास:। अंका: 30

सहायक ग्रंथा: (1) भारतीय कुण्डली विज्ञान : पं. मीठालाल ओझा ।
(2) भारतीय ज्योतिष का इतिहास : डॉ. गोरख प्रसाद ।

द्वितीयं : प्रश्न-पत्रम् (पेपर कोड-0701) **अंका: 75**

(1) लघुपाराशरी अंका : 45

(2) गोलपरिभाषा - पं. सीताराम झा अंका: 30

(5) निरुक्तम्

प्रथमं : प्रश्न-पत्रम् **अंका: 75**

(1) निरुक्तम् : यास्कप्रणीणतम् ।
(2) साहित्यदर्पणम् : विश्वनाथ कविराज रचितम् ।
(3) अलंकार सार मन्जरी : म. म. नारायण शास्त्री ।

सहायक ग्रंथा: (1) छन्दोमन्जरी : गंगादास: प्रणीता ।
(2) वृत्ता रत्नाकर : केदार भट्ट: प्रणीता अध्याय 1, 2 ।
1. सम्बद्ध निघण्टुयुक्तम् । 2. ऋक-प्रातिशख्यम् प्रथम: पटल: ।

द्वितीयं : प्रश्न-पत्रम् **अंका: 75**

(1) निरुक्तम् यास्काप्रणीतम्
अध्याय 3, 4 (सम्बद्ध निघण्टुयुक्तम्)
(2) वेदाङ्गानां सामान्यं ज्ञानम् निरुक्तस्य निशेषत: ।

(6) पुराणेतिहास

प्रथमं : प्रश्न-पत्रम्

(1) वाल्मीकि रामायणम् बालकाण्डम् अध्याया: - 10
(2) विटुलोपाख्यानम्

द्वितीयं : प्रश्न-पत्रम्

(1) विष्णु पुराणम् (प्रथमोऽध्यायः)

(2) महाभारत - आदि पर्व 65-74

(7) धर्मशास्त्रम्

प्रथम : प्रश्न-पत्रम्

(1) मनुस्मृतिः (प्रथमोऽध्यायः) ।

(2) पारस्कर - गृह्य सूत्रम् (कण्डिका, 1-10)

द्वितीयं : प्रश्न-पत्रम्

(1) याज्ञवल्क्यस्मृतिः (दायभागः मिताक्षरा संहिता) ।

(2) निर्णय - सिंधुः संवत्सर प्रकरणम्, द्वितीय परिच्छेदस्य पूर्वार्धः ।

(8) कर्मकाण्डम्

प्रथमं : प्रश्न-पत्रम्

(1) ग्रह शांति प्रयोगः - वायुनन्दन मिश्र कृतः

(2) सत्यनारायण व्रतकथा ।

द्वितीयं : प्रश्न-पत्रम्

(1) पारस्कर - गृहयसूत्रम् (हरिहर भाष्यम्)

(2) ग्रहशान्ति प्रयोगः वायु नन्दन मिश्र कृतः
अधिवेवतास्यपिनातः (तिलकाशीर्वाद पर्यंत)

- - - - - - - -

पं. रविशंकर शुक्ल विश्वविद्यालय रायपुर (छत्तीसगढ़)

पाठ्यक्रम

बी.ए.-1 (कोड-101) B. A.-1 (Code-101)

बी.ए. क्लासिक्स-1 (कोड-061) B.A. CLASSICS-1 (Code-061)

परीक्षा : 2015

कुलसचिव पं. रविशंकर शुक्ल विश्वविद्यालय
रायपुर (छत्तीसगढ़) की ओर से

अधिकृत मुद्रक एवं प्रकाशक :
गीता पब्लिकेशन
महामाईपारा, रायपुर (छत्तीसगढ़)

मूल्य : 25/-

पं. रविशंकर शुक्ल विश्वविद्यालय
रायपुर (छत्तीसगढ़)

पाठ्यक्रम

बी.काम. भाग-1 (कोड-601)

B. Com. Part - I (Code - 601)

परीक्षा : 2015

कुलसचिव पं. रविशंकर शुक्ल विश्वविद्यालय
रायपुर (छत्तीसगढ़) की ओर से

अधिकृत मुद्रक एवं प्रकाशक :
गीता पब्लिकेशन
महामाईपारा, रायपुर (छत्तीसगढ़)

B.Com. - I

INDEX

REVISED ORDINANCE NO.-23

(As per State U. G. C. Scheme)

BACHELOR OF COMMERCE

1. The three year course has been broken up into three Parts.

   Part-I known as B. Com. Part-I Examination at the end of first year.

   Part-II Examination at the end of the second year, and,

   Part-III Examination at the end of the third year.

2. A candidate who after passing (10+2) Higher Secondary or Intermediate examination of Chhattisgarh Board of Secondary Education, Raipur or any other examination recognised by the University or Chhattisgarh Board of Secondary Education as equivalent there to has attended a regular course of study in an affiliated college or in the Teaching Department of the University for one academic year, shall be eligible for appearing at the B.Com. Part-I examination.

3. A candidate who after passing B.Com. Part-I examination of the University or any other examination recognised by the University as equivalent thereto has attended a regular course of study for one academic year in an affiliated College or in the Teaching Department of the University, shall be eligible for appearing at the B.Com. Part-II Examination.

4. A candidate who after passing B.Com. Part-II examination of theUniversity has completed a regular course of study for one academic year in an affiliated College or in the Teaching Department of the University, shall be eligible for appearing at the B.Com. Part-III examination.

5. Besides regular students, subject to their compliance with this ordinance, ex-students and non-collegiate students shall be eligible for admission to the examination as per provision of Ordinance No. 6 relating to examinations (General).

   Provided that non-collegiate candidates shall be permitted to offer only such subject/ papers as are taught to the regular students at any of the University Teaching Department or College.

6. Every candidate for B.Com. Examination shall be examined in subjects as mentioned in the marking scheme and course or studies.

7. A candidate who has passed the B.Com. Part-III examination of the University shall be allowed to present himself of examination in any of the additional subjects prescribed for the B.Com. examination and not taken by him at the degree examination. Such candidate will have to first appear and pass the B. Com. Part-I examination in the subject which he proposes to offer then the B.Com. Part-II and Part-III examination in the same subject. Successful candidates will be given a certificate to that effect.

8. In order to pass at any part of the three year degree course examination, an examinee must obtain not less than 33% of the total marks in each paper/group of subjects. In group where both theory and practical examinations are provided an examinee must pass in both theory and practical parts of examination separately.

9. Candidate will have to pass separately at the Part-I, Part-II and Part-III examination. No division shall be assigned on the result of the Part-I and Part-II examinations In determining the division of the Final examination, total marks obtained by the examinees in their Part-I, Part-II and Part-III examination in the aggregate shall be taken into account. Candidate will not be allowed to change subjects after passing Part-I examination.

   Provided in case of candidate who has passed the examination through the supplementary examination having failed in one subject/group only, the total aggregate mark being carried over for determining the division, shall include actual marks obtained in the subject/group in which he appeared at the supplementary examination.

10. Successful examinees at the Part - III examination obtaining 60% or more marks shall be placed in the First Division, those obtaining less than 60% but not less than 45% marks in the Second Division and other successful examinees in the Third Division.

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B.COM. PART-I

SCHEME OF EXAMINATION

Subject			Max. Marks	Min. Marks
i	Environmental Studies	75	100	33
	Field Work	25		
A.	**FOUNDATION COURSE**			
i	Hindi Language - I		75	26
ii	English Language - II		75	26
नोट : प्रत्येक खंड में से 2 (दो) प्रश्न हल करने होगे । सभी प्रश्न समान अंक के होंगे ।				
B.	**THREE COMPULSORY GROUPS**			
GROUP - I				
	Accounting :			
i	Financial Accounting-I	75	150	50
ii	Business Mathematics-II	75		
GROUP - II				
	Business Management :			
i	Business Communication-I	75	150	50
ii	Business Reg. Framework-II	75		
GROUP - III				
	Applied Economics :			
i	Business Environment-I	75	150	50
ii	Business Economics-II	75		

USE OF CALCULATORS

The students of Degree/P.G. Classes will be permitted to use of Calculators in the examination hall from annual 1986 examination on the following conditions as per decision of the standing committee of the Academic Council at its meeting held on 31-1-1986.

1. Student will bring their own Calculators.
2. Calculators will not be provided either by University or examination centres.
3. Calculators with, memory and following variables be permitted +, −, x, ¸, square reciprocal, expotentials, log squares, root, trignometric functions viz, sine, cosine tangent etc. factorial summation, xy, yx and in the light of objective approvial of marits and demerits of the viva only will be allowed.

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Part - I

SYLLABUS FOR ENVIRONMENTAL STUDIES AND HUMAN RIGHTS

(Paper code-0828)

MM. 75

इन्वारमेंटल साईंसेस के पाठ्यक्रम को स्नातक स्तर भाग–एक की कक्षाओं में विश्वविद्यालय अनुदान आयोग के निर्देशानुसार अनिवार्य रूप से शिक्षा सत्र 2003–2004 (परीक्षा 2004) से प्रभावशील किया गया है। स्वशासी महाविद्यालयों द्वारा भी अनिवार्य रूप से अंगीकृत किया जाएगा।

भाग 1, 2 एवं 3 में से किसी भी वर्ष में पर्यावरण प्रश्न–पत्र उत्तीर्ण करना अनिवार्य है। तभी उपाधि प्रदाय योग्य होगी।

पाठ्यक्रम 100 अंकों का होगा, जिसमें से 75 अंक सैद्धांतिक प्रश्नों पर होंगे एवं 25 अंक क्षेत्रीय कार्य (Field Work) पर्यावरण पर होंगे।

सैद्धांतिक प्रश्नों पर अंक – 75 (सभी प्रश्न इकाई आधार पर रहेंगे जिसमें विकल्प रहेगा)

(अ) लघु प्रश्नोंत्तर – 25 अंक

(ब) निबंधात्मक – 50 अंक

Field Work – 25 अंकों का मूल्यांकन आंतरिक मूल्यांकन पद्धति से कर विश्वविद्यालय को प्रेषित किया जावेगा। अभिलेखों की प्रायोगिक उत्तर पुस्तिकाओं के समान संबंधित महाविद्यालयों द्वारा सुरक्षित रखेंगे।

उपरोक्त पाठ्यक्रम से संबंधित परीक्षा का आयोजन वार्षिक परीक्षा के साथ किया जाएगा।

पर्यावरण विज्ञान विषय अनिवार्य विषय है, जिसमें अनुत्तीर्ण होने पर स्नातक स्तर भाग–एक के छात्र/छात्राओं को एक अन्य विषय के साथ पूरक की पात्रता होगी। पर्यावरण विज्ञान के

सैद्धांतिक एवं फील्ड वर्क के संयुक्त रूप से 33% (तैंतीस प्रतिशत) अंक उत्तीर्ण होने के लिए अनिवार्य होंगे।

स्नातक स्तर भाग–एक के समस्त नियमित/भूतपूर्व/अमहाविद्यालयीन छात्र/छात्राओं को अपना फील्ड वर्क सैद्धांतिक परीक्षा की समाप्ति के पश्चात् 10 (दस) दिनों के भीतर संबंधित महाविद्यालय/परीक्षा केन्द्र में जमा करेंगे एवं महाविद्यालय के प्राचार्य/केन्द्र अधिक्षक, परीक्षकों की नियुक्ति के लिए अधिकृत रहेंगे तथा फील्ड वर्क जमा होने के सात दिनों के भीतर प्राप्त अंक विश्वविद्यालय को भेजेंगे।

UNIT-I THE MULTI DISCIPLINARY NATURE OF ENVIRONMENTAL STUDIES

Definition, Scope and Importance

Natural Resources:

Renewable and Nonrenewable Resources

(a) Forest resources: Use and over-exploitation, deforestation, Timber extraction, mining, dams and their effects on forests and tribal people and relevant forest Act.

(b) Water resources: Use and over-utilization of surface and ground water, floods drought, conflicts over water, dams benefits and problems and relevant Act.

(c) Mineral resources: Use and exploitation, environmental effects of extracting and using mineral resources.

(d) food resources: World food problems, changes caused by agriculture and overgrazing, effects of modern agriculture, fertilizer-pesticide problems, water logging , salinity.

(e) Energy resources: Growing energy needs, renewable and non-renewable energy sources, use of alternate energy sources.

(f) Land resources: Land as a resource, land degradation, man induced landslides soil erosion and desertification.

(12 Lecture)

UNIT-II ECOSYSTEM

(a) Concept, Structure and Function of and ecosystem

- Producers, consumers and decomposers.
- Energy flow in the ecosystem

- Ecological succession
- Food chains, food webs and ecological pyramids.
- Introduction, Types, Characteristics Features, Structure and Function of Forest, Grass, Desert and Aquatic Ecosystem.

(b) Biodiversity and its Conservation

- Introduction - Definition: genetic. species and ecosystem diversity
- Bio-geographical classification of India.
- Value of biodiversity: Consumptive use. productive use, social ethics, aesthetic and option values.
- Biodiversity at global, National and local levels.
- India as mega-diversity nation.
- Hot spots of biodiversity.
- Threats to biodiversity: habitat loss, poaching of wildlife, man-wild life conflict.
- Endangered and endemic species of India.
- Conservation of biodiversity: In situ and Ex-situ conservation of biodiversity.

(12 Lecture)

UNIT- III

(a) Causes, effect and control measures of

- Air water, soil, marine, noise, nuclear pollution and Human population.
- Solid waste management: Causes, effects and control measures of urban and industrial wastes.
- Role of an individual in prevention of pollution.
- Disaster Management : floods, earthquake, cyclone and landslides.

(12 Lecture)

(b) Environmental Management

- From Unsustainable to sustainable development.
- Urban problems related to energy.

- Water conservation, rain water harvesting, watershed management.
- Resettlement and rehabilitation of people, its problems and concerns.
- Environmental ethics: Issues and possible solutions.
- Climate change, global warming, acid rain, ozone layer depletion, nuclear accidents and holocaust.
- Wasteland reclamation
- Environment protection Act: Issues involved in enforcement of environmental legislation.
- Role of Information Technology in Environment and Human Health.

UNIT- IV

General background and historical perspective- Historical development and concept of Human Rights, Meaning and definition of Human Rights, Kind and Classification of Human Rights.

Protection of Human Rights under the UNO Charter, protection of Human Rights under the Universal Declaration of Human Rights, 1948.

Convention on the Elimination of all forms of Discrimination against women.

Convention on the Rights of the Child, 1989.

UNIT- V

Impact of Human Rights norms in India, Human Rights under the Constitution of India, Fundamental Rights under the Constitution of India, Directive Principles of State policy under the Constitution of India, Enforcement of Human Rights in India.

Protection of Human Rights under the Human Rights Act, 1993- National Human Rights Commission, State Human Rights Commission and Human Rights court in India.

Fundamental Duties under the Constitution of India.

Reference/ Books Recommended

1. SK Kapoor- Human rights under International Law and Indian Law.
2. HO Agrawal- Internation Law and Human Rights
3. एस.के. कपूर – मानव अधिकार
4. जे.एन. पान्डेय – भारत का संविधान
5. एम.डी. चतुर्वेदी – भारत का संविधान
6. J.N.Pandey - Constitutional Law of India
7. Agarwal K.C. 2001 Environmental Biology, Nidi pub. Ltd. Bikaner

8. Bharucha Erach, the Biodiversity of India, Mapin pub. Ltd. Ahmedabad 380013, India, Email: mapin@icenet.net(R)
9. Bruinner R.C. 1989, Hazardous Waste Incineration. McGraw Hill Inc.480p
10. Clark R.S. Marine pollution, Clanderson press Oxford (TB)
11. Cuningham, W.P.Cooper. T.H.Gorhani, E & Hepworth. M.T,200
12. Dr. A.K.- Environmental Chemistry. Wiley Eastern Ltd.
13. Down to Earth, Center for Science and Environment (R)
14. Gloick, H.P. 1993 Water in crisis. pacific institute for studies in Deve. Environment & Security. Stockholm Eng. Institute. Oxford University, Press. m 473p.
15. Hawkins R.E. Encyclopedia of Indian Natural History, Bombay Natural History Society, Mumbai (R)
16. Heywood, V.H. & Watson, T.T.1995 Global Biodiversity Assessment, Cambridge Univ. Press 1140p
17. Jadhav H. & Bhosale, V.H. 1995 Environmental Protection and Law. Himalaya pub. House, Delhi 284p
18. Mckinney M.L.& School R.M.1996, environmental Science systems & solutions, web enhanced edition, 639p
19. Mhadkar A.K. Matter Hazardous, Techno-Science publication(TB)
20. Miller T.G.Jr. Environment Science, Wadsworth publication co. (TB)
21. Odum E.P.1971, Fundamentals of Ecology, W.B. Saunders Co. USA,574p
22. Rao M.N. & Datta, A.K. 1987, Waste water treatment. Oxford & IBH pub.co.pvt. Ltd 345p
23. Sharma B.K. 2001, Environmental chemistry, Goel pub. House, Meerut
24. Survey of the Environment, The Hidu(M)
25. Townsend C. Harper J. And Michael Begon, Essentials of Ecology, Blackwell Science(TB)
26. Trivedi R.K.Handbook of Environment Laws, Rules, Guidlines, Compliances and Standards, Vol land II, Environment Media(R)
27. Trivedi R.K. and P.K. Goel, Introduction to air pollution, Techno-Science publication (TB)
28. Wanger K.D.1998, Environmental Management. W.B. Saunders Co. Philadelphia, USA 499p

आधार पाठ्यक्रम

प्रश्न पत्र - प्रथम

हिन्दी भाषा

पूर्णांक - 75

(पेपर संख्या 1111)

नोट :

1. प्रश्न पत्र 75 अंक का होगा ।
2. प्रश्न पत्र अनिवार्य होगा ।
4. इसके अंक श्रेणी निर्धारण के लिए जोड़े जावेंगे ।
5. प्रत्येक इकाई के अंक समान होंगे ।

पाठ्य विषय -

इकाई-1 पल्लवन, पत्राचार तथा अनुवाद एवं पारिभाषिक शब्दावली ।

इकाई-2 मुहावरे-लोकोक्तियाँ, शब्दशुद्धि, वाक्य शुद्धि, शब्द ज्ञान-पर्यायवाची, विलोम, अनेकार्थी, समश्रुत (समानोचरित) अनेक शब्दों के लिए एक शब्द ।

इकाई-3 देवनागरी लिपि की विशेषता, देवनागरी लिपि एवं वर्तनी का मानक रूप ।

इकाई-4 कम्प्यूटर में हिन्दी का अनुप्रयोग, हिन्दी में पदनाम ।

इकाई-5 हिन्दी अपठित, संक्षेपण, हिन्दी में संक्षिप्तीकरण ।

पाठ्य क्रम के लिए पुस्तकें -

1. भारतीयता के स्वर साधन धनंजय वर्मा - म. प्र. ग्रंथ अकादमी ।
2. नागरी लिपि और हिन्दी - अनंत चौधरी - ग्रंथ अकादमी पटना ।
3. कम्प्यूटर और हिन्दी - हरिमोहन - तक्षशिला प्रकाशन, दिल्ली ।

FOUNDATION COURSE

PAPER - II

ENGLISH LANGUAGE (Paper Code-1112)

M.M. 75

UNIT-1 **Basic Language skills : Grammar and Usage.**

Grammar and Vocabulary based on the prescribed text.
To be assessed by objective / multiple choice tests.

(Grammar - 20 Marks
Vocabulary - 15 Marks)

UNIT-2 **Comprehension of an unseen passage.** 05

This should imply not only (a) an understanding of the passage in question, but also (b) a grasp of general language skills and issues with reference to words and usage

within the passage and (c) the Power of short independent composition based on themes and issues raised in the passage.

To be assessed by both objective multiple choice and short answer type tests.

UNIT-3 **Composition :** Paragraph writing 10

UNIT-4 **Letter writing** (The formal and one Informal) 10

Two letters to be attempted of 5 marks each. One formal and one informal.

UNIT-5 **Texts :** 15

Short prose pieces (Fiction and not fiction) short poems, the pieces should cover a range of authors, subjects and contexts. With poetry if may sometimes be advisable to include pieces from earlier periods, which are often simpler than modern examples. In all cases, the language should be accessible (with a minimum of explanation and reference to standard dictionaries) to the general body of students schooled in the medium of an Indian language.

Students should be able to grasp the contents of each piece; explain specific words, phrases and allusions; and comment on general points of narrative or argument. Formal Principles of Literary criticism should not be taken up at this stage.

To be assessed by five short answers of three marks each.

BOOKS PRESCRIBED -

English Language and Indian Culture - Published by M.P. Hindi Granth Academy Bhopal.

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GROUP - I

FINANACIAL ACCOUNTING

(Paper Code-1113)

PAPER - I **M.M. 75**

OBJECTIVE

To Impart basic accounting knowledge as applicable to business.

COURSE INPUTS

UNIT-I Meaning and Scope of Accounting : Need, development, and definition, objectives of accounting, difference between Book-keeping and accounting; Branches of accounting; Accounting Principles,

Accounting Standard : International accounting Standard only outlines, Accounting standard in India.

Accounting Transaction : Accounting cycles Journal Rules of debit & Credit, Compound Journal Entry opening Entry Relationship between Journal & ledger, Capital & Revenue: Classification of Income & Expenditure and Receipt.

UNIT-II Final accounts; Trial balance; Manufacturing account; Trading account; Profit and loss account; Balance sheet; Adjustment entries.

Rectification of errors; Classification of errors; Location of errors; Rectification of errors; Suspense account; Effect on profit.

UNIT-III Depreciation, Provisions, and Reserves: Concept of depreciation; Causes of depreciation; Depreciation, depletion amortization, Depreciation accounting; Methods of recording depreciation; Methods for providing depreciation; Depreciation of different assets; Depreciation of replacement cost; Depreciation policy; as per Indian accounting Standard : Provisions and Reserves. Accounts of Non-Trading Institutions

UNIT-IV Special Acconting Areas :

Branch Accounts : Dependent branch : Debtors system, stock and debtor system ; Hire-purchase and instalment purchase system ; Meaning of hire-purchase contract; Legal provision regarding hire-purchase contract; Accounting records for goods of substantial sale values, and accounting records for goods of small values; Instalment purchase system ; After sales service.

UNIT-V

a. Partnership Accounts : Essential characteristics of partnership ; Partnership deed : Final accounts; Adjustments after closing the accounts ; Fixed fluctuating capital ; Goodwill ; AS-10 ; Joint Life Policy ; Change in Profit Sharing Ratio.

b. Reconstitution of a partnership firm-Admission of a partner ; Retirement of a partner; Death of a partner; Dissolution of a firm; Accounting Entries; Insolvency of partnership firm-Modes of dissolution of a firm;Accounting entries; Insolveney of parters distribution.

SUGGESTED READINGS :

1. Anthony, R.N. and Reece, J.S.: Accounting Principles; Richard Irwin Inc.
2. Gupta, R.L. and Radhaswamy, M: Financial Accounting ; Sultan chand and Sons, New Delhi.
3. Monga J.R. Ahuja Girish, and Sehgal Ashok : Financial Accounting ; Mayur Paper Back, Noida.

4 Shukla. M.C., Grewal T.S., and Gupta, S.C.: Advanced Accounts; S.Chand & Co. New Delhi.
5 Compendium of Statement and Standards of Accounting : The Institute of Chartered Accountants of India, New Delhi.
6 Agrawala A.N. Agrawala K.N.: Higher Sciences of Accountancy : Kitab Mahal, Allahabad.
7. उच्चतर लेखांकन : राणा एवं अन्य : म.प्र. हिन्दी ग्रंथ अकादमी, भोपाल
8. उच्चतर लेखांकन : वसु एवं दास : (अंग्रेजी)
9. उच्चतर लेखांकन : हनीफ एवं मुखर्जी (अंग्रेजी)
10. वित्तीय लेखांकन : अग्रवाल एवं मंगल : यूनिवर्सल पब्लिकेशन
11. वित्तीय लेखांकन : एस.एम. शुक्ला : साहित्य भवन आगरा

BUSINESS MATHEMATICS

(Paper Code-1114)

PAPER - II **M.M. 75**

OBJECTIVE

The objective of this course is to enable the students to have such minimum knowledge of Mathematics as is applicable to business and economic situations.

COURSE INPUTS

UNIT-I Calculus (Problems and theorems involving trigonometrical ratios are not to be done).

Differentiation : Partial derivatives up to second order; Homogeneity of functions and Euler's theorem;

Maxima and Minima; Cases of one variable involving second or higher order derivatives; logarithm's.

UNIT-II Matrices and Determinants : Definition of a matrix; Types of matrices; Algebra of matrices; Properties of determinants; Calculation of values of determinants upto third order; Adjoint of a matrix, elementary row or column operations; Finding inverse of a matrix through adjoint and elementary row or column operations; Solution of a system of linear equations having unique solution and involving not more than three variables.

UNIT-III Linear Programming-Formulation of LPP : Graphical method of solution ; Problems relating to two variables including the case of mixed constraints; Cases having no solution, multiple solutions, unbounded solution and redundant constraints.

Transportation Problem, Ratio & Proportion.

UNIT-IV Compound interest and Annuities : Certain different types of interest rates; Concept of present value and amount of a sum ; Types of annuities; Present value and amount of an annuity, including the case of continuous compounding ; Valuation of simple loans and debentures; Problems relating to sinking funds.

UNIT-V Averages, Percentages, Commission Brokerage, Profit and loss.

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GROUP - II

BUSINESS COMMUNICATION (Paper Code-1115)

PAPER - I **M.M. 75**

OBJECTIVE

The Objective of this course is to develop effective business communication skills among the students.

COURSE INPUTS

UNIT-I Introducing Business Communication : Definitions, concept and Significance of communication, Basic forms of communicating; Communication models and process principles of effective communication; Theories of communication; Audience analysis.

Self-Development and Communication : Development of positive personal attitudes, SWOT analysis; Vote's model of interdependence; Whole communication.

UNIT-II Corporate Communication : Formal and informal communication networks; Grapevine; Miscommunication (Barriers) ; Improving communication.

Practices in business communication : Group discussions; Mock interviews; Seminars; Effective listening exercises; Individual and group presentations and reports writing.

UNIT-III Writing Skills : Planning business messages; Rewriting and editing; The first draft; Reconstructing the final draft; Business letters and memo formats; Appearance request letters; Good news and bad new letters; Persuasive letters; Sales letters; Collection letters; Office memorandum.

UNIT-IV Report Writing : Introduction to a proposal, short report and formal report, report preparation.

Oral Presentation : Principles of oral presentation, factors affecting presentation, sales presentation, training presentation, conducting surveys, speeches to motivate, effective presentation skills.

UNIT-V Non-Verbal Aspects of Communicating.

Body language : Kinesics, Proxemics, Para language..

Effective listening : Principles of effective listening; Factors affecting listening exercises; Oral, written, and video sessions.

Interviewing Skills : Appearing in interviews; Conducting interviews; Writing resume and letter of application.

Modern Forms of Communicating : Fax; E-mail; Video conferencing; etc.

International Communication : Cultural sensitiveness and cultural context; Writing and presenting in international situations; Inter-cultural factors in interactions; Adapting to global business.

SUGGESTED READINGS :

1 Bovee and Thill : Business Communication Today ; Tata McGraw Hill, New Delhi.

2 Ronald E. Dulek and John SFielder : Principles of Business Communication; Macmillan Publishing Company, London.

3 Randall E. Magors; Business Communication : Harper and Row New York.

4. Webster's Guide to Effective letter writing ; Harper and Row, New York.
5. Balasubramanyam : Business Communications ; Vikas Publishing House, Delhi.
6. Kaul : Business Communication ; Prentice Hall, New Delhi.
7. Kaul : Effective Business Communication : Prentice Hall, New Delhi.
8. Patri VR : Essentials of Communication ; Greenspan Publications, New Delhi.
9. Senguin J : Business Communication ; The Real World and Your Career, Allied Publishers, New Delhi.
10. Robinson, Netrakanti and Shintre : Communicative Competence in Business English ; Orient Longman, Hyderabad.

BUSINESS REGULATORY FRAMEWORK (Paper Code-1116)

PAPER - II **M.M. 75**

OBJECTIVE

The objective of this course is to provide a brief idea about the framework of Indian business laws.

COURSE INPUTS

UNIT-I Law of Contract (1872) : Nature of contract ; Classification; Offer and acceptance; Capacity of parties to contract, free consent, Considerations, Legality of object; Agreement declared void; Performance of contract; Discharge of contract; Remedies for breach of contract.

UNIT-II Special Contracts : Indemnity ; Guarantee; Bailment and pledge; Agency.

UNIT-III Sale of Goods Act 1930 : Formation of contracts of sale; Goods and their classification, price, Conditions, and warranties; Transfer of property in goods; Performance of the contract of sales; Unpaid seller and his rights, sale by auction; Hire purchase agreement.

UNIT-IV Negotiable Instrument Act 1881 : Definition of negotiable instruments; Features; Promissory note; Bill of exchange & cheque; Holder and holder in the due course; Crossing of a cheque, types of crossing; Negotiation; Dishonuor and discharge of negotiable instrument.

UNIT-V The Consumer Protection Act 1986 : Sailent features; Definition of consumer; Grievance redressal machinery;

Foreign Exchange Management Act 2000 : Definitions and main provisions, Right to Information Act 2005 (Main Provisions).

SUGGESTED READINGS :

1. Desai T.R. Indian Contract Act, Sale of Goods Act and Partnership Act; S.C. Sarkar & Sons Pvt. Ltd. Kolkata.
2. Khergamwala J.S.: The Negotiable Instruments Act; N.M.Tripathi Pvt. Ltd. Mumbai.
3. Singh Avtar : The Principles of Mercantile Law; Eastern Book Company, Lucknow.
4. Kuchal M.C. Business Law; Vikas Publishing House, New Delhi.
5. Kapoor N.D. Business Laws, Sultan Chand & Sons, New Delhi.
6. Chandha P.R. : Business Law; Galgotia, New Delhi.

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GROUP - III

BUSINESS ENVIRONMENT (Paper Code-1117)

PAPER - I **M.M. 75**

OBJECTIVE

This course aims at acquainting the students with the emerging issues in business at the national and international level in the light of the policies of liberalization and globalization.

COURSE INPUTS

UNIT-I Indian Business Environment : Concept, components, and importance

Economic Trends (overview) : Income ; Savings and investment ; Industry ; Trade and balance of payments, Money ; Finance ; Prices.

UNIT-II Problems of Growth : Unemployment ; Poverty; Regional imbalances ; Social injustice; Inflation ; Parallel economy ; Industrial sickness.

UNIT-III Role of Government : Monetary and fiscal policy ; Industrial policy ; Industrial licensing. Privatization; Devaluation; Export-Import policy; Regulation of foreign investment; Collaborations in the light of recent changes.

UNIT-IV Review of Presious Plans, the current five Year Plan, major Policy, Resources Allocation.

UNIT-V International Environment : international trading environment (overview); Trends in world trade and the problems of developing countries; Foreign trade and economic growth; International economic groupings; International economic institutions - GATT, WTO World Bank, IMF; FDI, Counter trade.

SUGGESTED READINGS :

1. Sundaram & Black : The International Business Environment ; Prentice Hall, New Delhi.
2. Agrawal A.N. : Indian Economy ; Vikas Publishing House, Delhi.
3. Khan Farooq A : Business and Society : S. Chand., Delhi.
4. Dutt R. and Sundaram K.P.M. ; Indian Economy : S. Chand, Delhi.
5. Misra S.K. and Puri V.K. : Indian Economy : Himalaya Publishing House, New Delhi.
6. Hedge Lan : Environmental Economics; Macmillan, Hampshire.
7. Dutt Ruddar : Economic Reforms in India - A Critique : S. Chand, New Delhi.

BUSINESS ECONOMICS (Paper Code-1118)

PAPER - II **M.M. 75**

OBJECTIVE

This course is meant to acquaint the students with the principles of Business Economics as are applicable in business.

COURSE INPUTS

UNIT-I Introduction : Basic problems of an economy ; Working of price mechanism.

Elastcity of Demand : Concept and measurment of elasticity of demand ; Price, income

and cross elasticities; Average revenue, marginal revenue, and elasticity of demand; Determinants of elasticity of demand; Importance of elasticity of demand.

UNIT-II Production Function : Law of variable proportions ; Iso-quants; Expansion path; Returns to scale; Internal and external economies and diseconomies.

UNIT-III Theory of Costs : Short-run and long-run cost curves - traditional and modern approaches.

Market Structures I Market structures and business decisions ; Objectives of a business firm.

a Perfect Competition : Profit maximization and equilibrium of firm and industry ; Short-run and long run supply curves; Price and output determination. Practical applications.

b Monopoly : Determination of price under monopoly ; Equilibrium of a firm ; Comparison between perfect competition and monopoly; Multi-plant monopoly; Price discrimination. Practical applications.

UNIT-IV Market Structures

a. Monopolistic Competition : Meaning and characterstics; Price and output determination under monopolistic competition; Product differentiations ; Selling costs; Comparison with perfect competition; Excess capacity under monopolistic competition.

b Oligopoly : Characteristics, indeterminate pricing and output ; Classical models of oligopoly ; Price leadership ; Collusive oligopoly.

UNIT-V Factor Pricing-I : Marginal Productivity theory and demand for factors; Nature of supply of factor inputs; Determination of wage rates under perfect competition and monopoly; Exploitation of labour.

Factor pricing-II : Rent concept, Recardian and modern theories of Rent quasirent.

Interests-concept and theories of interest ; Profit-nature, concepts and theoris of profit.

SUGGESTED READINGS :

1. John P.Gould, Jr. and Edward P.Lazear : Micro economic Theory; All India Traveller, Delhi.
2. Browning Edger K, and Browning Jacquenience M : Microeconomic Theory and Applications ; Kalyani, New Delhi.
3. Watson Donald S. and Getz Molcolm : Price Theory and its Uses ; Khosla Publishing House, New Delhi.
4. Koutsoyianni A.: Modern Microeconomics : Macmillan, New Delhi.
5. Rechard G, Lipsey : An Introduction to Positive Economics ; ELBS, Oxford.
6. Stigler G : The Theory of Price ; Prentice Hall of India.
7. Nellis & Parker : The Essence of Business Economics; Prentice Hall, New Delhi.
8. Forguson P.R. and Rothschild R., and Forguson G.J. : Business Economics; MacMillan Hampshire.
9. Ahuja H.l.: Business Economics ; S.Chand & Co., New Delhi.

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B. COM.-I YEAR (COMPUTER APPLICATION)

MARKS DISTRIBUTION

THEORY PAPER	PAPER - I	TOTAL MARKS - 50
	PAPER - II	TOTAL MARKS - 50

Every unit of theory paper will consists of 10 marks.

PRACTICAL PAPER	TOTAL MARKS - 50
Practical Marks Distribution	VIVA - 10
	INTERNAL - 15
	PRACTICAL - 25
Practical Test will consist of 3 hrs.	TOTAL MARKS - 150

Syllabus of B. Com - I (Computer Application)

PAPER - I

(COMPUTER FUNDAMENTALS AND OFFICE AUTOMATION) (Paper Code-1119)

UNIT-I Introduction to Computers

Computer System Characteristics and Capabilities : Speed, Accuracy, Reliability, Memory capability, Repeatability. *Computer Hardware and Software :* Block Diagram of Computer, Different Types of Software. *Data Processing :* Data, Data Processing System, Storing Data, Processing Data. *Types of Computers :* Analog, Digital, Hybrid General and Special Purpose Computers. *Computer Generations :* Chatacteristics of Computer Generations Computer Systems - Micro, Minis & Main-Frames. *Introduction to a PC :* The IBM Personal Computer Types of PC systems PC, XT & AT Pentium PC's. Prevailing computer configurations. Various types of computer peripherals and memory devices. Limitations of Micro Computer.

UNIT-II Computer Software and Application

System Software : System software Vs. Application Software, Types of System Software, Introduction and Types of Operating Systems programs, Booting Loader, Diagnostic Tests, BIOS, Utility Programs, File Maintenance, Language Processors, Assembler, Compiler & Interpreter. Types of operating systems- MS DOS, WINDOWS, UNIX/Linux. *Application Software :* Microcomputer Software, Interacting with the System, Trends in PC software, Types of Application Software, Difference between Program and Packages.

UNIT-III Operating System

Fundamentals of DOS : Physical Structure of the Disk, Compatibility of drives, Disks & DOS versions, Preparing Disks for use, Device Names. *Getting Started with DOS :* Booting Process, System Files and Command com, Internal DOS Commands - DIR, MD, CD, COPY, DEL, REN, VOL, DATE, TIME, CLS, PATH, TYPE. Files & Directories, Elementary External DOS Commands - CHKDSK, MEM, XCOPY, PRINT, DISKCOPY, DISKCOMP, DOSKEY, HELP, TREE, SYS, LABEL, ATTRIB, Creating a Batch Files, Additional Commands - ECHO, PROMPT, MODE, GRAPHICS, EDIT, FORMAT, FDISK, BACKUP, RESTORE, MORE, SORT, APPEND.

Windows Concepts, Features, Structure, Desktop, Taskbar, Start Menu, My Computer, Recycle bin, Accessories : Calculator, Notepad, Paint, WordPad, Character

Map. Explorer : Creating folders and other Explorer facilities. Internet explorer basics, navigating the web.

UNIT-IV **Ms Word -** Creating & editing word documents, Formatting documents - aligning documents, indenting paragraphs, changing margin, formatting pages, formatting paragrtaph, printing labels, working with tables, formatting text in tables, inserting & deleting cells, rows & Columns, use Bulleted & numbering. Checking spelling & Grammar, Finding synonyms, Working with long documents, working with header & Footer, adding page no & footnote, working with Graphics, inserting ClipArt, working templates, Creating templates, working with Mail - Merge, Writing the Form letter, Merging Form documents, Merging to label, Working with Mailing lists and Data Sources, Selecting Merge Records, Creating Macro, Running Macro.

Presenting with power point : Creating presentation, working with slides, Different type of slides, setting page layout, selecting background & applying design, adding Graphics to slide, adding sound & Movie, working with table, crating chart & Graph, playing a slide show, slide transition, advancing slides, setting time, rehearsing timing, animating slide, animating objects, running the show from windows.

UNIT-V **Working with Excel -** Introducing Excel, Use of Excel sheet, saving, opening & printing workbook, Apply formats in cell & text, Divide worksheet into pages, setting page layout, adding Header & Footer. Using multiple documents, arranging windows i.e. (Cascade, Tiled, Split), protecting your work, password protection. Working with Functions & Formulas, using absolute reference, referencing cell by name, using cell label, Giving name to cell and ranges, working with formulas (Mathematical & Trigonometric, Statistical, Date time, Most recently used), Working with Excel Graphics, creating chart & graphs. Working with lists & database, sorting a database, Filtering a database, using auto filter, Criteria Range, Calculating total & Subtotal, Creating Pivot table, Goal seek, Recording & Playing Macros, Deleting & Selecting Macro location, Use of Freeze option.

SUGGESTED BOOKS:

1. Office 2000 Made Easy - Alan Neibauer, Tata McGraw Hill.
2. Operating System (Incl. DOS & UNIX) : C. Ritchie [BPB]

PAPER - II

COMPUTERIZED FINANCIAL ACCOUNTING (Paper Code-1120)

UNIT-I Introduction to Data Base Management System, Introduction to Foxpro. Creating Data Base Files, list, display, edit browse replace, delete, pack, recall, locate-continue seek and find, sort, index, display structure, modify structure, memo field.

UNIT-II Memory variables, store, date and time function, prinitng reports and labels, mathematicl function - sum, average, count, sqrt(), min(), max(), betweem(), len(), Floor(), int(), log(), sign(), character function - left(), right(), at(), stuff(), isupper(0, islower(), isalpha(), isdigit(), replicate(). Greation of Macros, Array.

UNIT-III Programming with foxpro : modify command, using do while-enddo, making decision with if-endif, scan-end, text-endtext, do...case-end...case, for-endfor, accept, input, wait, set relation, update, join, @ say, get command with read, pictures and functions with @.

Windows, menus and popus-creating menu define menu, defining and using popups and popups features, creating simple menu with @ prompt, defining and using windows.

UNIT-IV Introduction to Accounting Software [Ex.-Tally], Creation of Company, Ledgers & Groups. Advance features of Accounitng Software.

Accounting Transactions : Operating Cycle, Journal, Concept of Accounts Receivable and payable, Compound Journal entry, Opening entry of Ledger.

UNIT-V Voucher Entry : Types of Voucher, Capital and Revenue, Income, Expenditure, Receipts Preparation of Trial Balance, Profit & Loss Account & Balance Sheet.

Depreciation, Provisions and Reserves, Methods of Depreciation, Depreciation of assets, Depreciation of replacement cost.

SUGGESTED REFERENCES :

1. Foxpro made simple by R.K. Taxali.
2. Foxpro 2.5 by Charies Seigal.
3. Tally 5.4 by Vishupuriya Singh.
4. Implementry tally 1.4 by K.K. Nadhni.

PAPER - III

PRACTICAL EXERCISES BASED ON PAPER I&II

Following practicals (from s.no. 1 to 7) to be done using any financial accounting S/w (like Tally)

1. Setting up Ledger & Groups.
2. Study of recording of transactions in the 'Voucher'. (According to Golden rules)
3. Study of 'Final A/C preparation & displaying in different mode/format.
4. Study of alteration & Deletion of ledger/Groups.
5. Study of cash & find flow, day book, sales register, purchase register, bills receivable/ Payable etc.
6. Study of data security & backing up data.
7. Outline of entry of Income Tax, ED, VAT, ST/CST, PF, Gratuity, Bonus, Loans & Depreciation etc.
8. Creating label, report and screen files using database file with all types of fields.
9. Making of Macros for creating new data base functions.
10. Programming in foxpro which covers menus, Conditional branching & looping, array, memory variable, hyperlink.
11. Study of working with two or more data bases using join, Set relation, update.
12. Sending circular letter to all organization using mail merge.
13. Practical that cover all Graphs.
14. Create conditional Batch file for selection of copying, deleting, renaming & exit file.
15. Practice of all internal & External Dos commands.
16. Creating Sheet which covers sorting. grouping, Freeze, auto sum, subtotal, Max, Min, Goal seek function.

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पं. रविशंकर शुक्ल विश्वविद्यालय रायपुर (छत्तीसगढ़)

पाठ्यक्रम

बी.काम. भाग-1 (कोड-601)

B. Com. Part - I (Code - 601)

परीक्षा : 2015

कुलसचिव पं. रविशंकर शुक्ल विश्वविद्यालय

रायपुर (छत्तीसगढ़) की ओर से

अधिकृत मुद्रक एवं प्रकाशक :

गीता पब्लिकेशन

महामाईपारा, रायपुर (छत्तीसगढ़)

मूल्य : 14/-

पं. रविशंकर शुक्ल विश्वविद्यालय
रायपुर (छत्तीसगढ़)

पाठ्यक्रम

बी.एस.सी. भाग-1 (कोड-301)

B. Sc. Part - I (Code - 301)

परीक्षा : 2015

कुलसचिव पं. रविशंकर शुक्ल विश्वविद्यालय
रायपुर (छत्तीसगढ़) की ओर से

B. Sc. Part - I

विषय–सूची

PT. RAVISHANKAR SHUKLA UNIVERSITY RAIPUR (C.G.)

REVISED ORDINANCE NO. 21

BACHELOR OF SCIENCE

1. The three year course has been broken up into three Parts. Part-I known as B.Sc. Part-I examination at the end of the first year, Part-II known as B.Sc. Part-Ii examination at the end of the second year and Part-III known as B.Sc. Part-III examination at the end of the third year.

2. A candidate who after passing (10+2) Higher Secondary or Intermediate examination of C.G. Board of Secondary Education Bhopal or any other Examination recognised by the University or C.G. Board of Secondary Education as equivalent thereto, has attended a regular course of study in an affiliated College or in the Teaching Department of the University for one academic year shall be eligible for appearing at the B.Sc. Part-I examination.

3. A candidate who, after passing the B.Sc.-I examination of the University or any other examination recognised by the University as equivalent thereto, has attended a regular course of study for one academic year in an affiliated college or in the Teaching Department of the University shall be eligible for appearing at the B.Sc. Part-II examination.

4. A candidate who, after passing the B.Sc. Part-Ii examination of the University, has completed a regular course of study for one academic year in an affiliated college or in the Teaching Department of the University shall be eligible for appearing at the B.Sc. Part-III examination.

5. Besides regular students, subject to their compliance with this Ordinance ex-student and non-collegiate candidates shall be permitted to offer only such subjects/papers as are taught to the regular student at any of the University Teaching Department or College.

6. Every candidate appearing in B.Sc. Part-I, Part-II and Part-III examination shall be examined in -

   (i) Foundation Course :

   (ii) Any one of the following combinations of three subjects :-

      1. Physics, Chemistry & Mathematics.
      2. Chemistry, Botany & Zoology.
      3. Chemistry, Physics & Geology.
      4. Chemistry, Botany & Geology.
      5. Chemistry, Zoology & Geology.
      6. Geology, Physics & Mathematics.
      7. Chemistry, Mathematics & Geology.
      8. Chemistry, Botany & Defence Studies.
      9. Chemistry, Zoology & Defence Studies
      10. Physics, Mathematics & Defence Studies.
      11. Chemistry, Geology & Defence Studies
      12. Physics, Mathematics & Statistics
      13. Physics, Chemistry & Statistics
      14. Chemistry, Mathematics & Statistics.
      15. Chemistry, Zoology & Anthropology.
      16. Chemistry, Botany & Anthropology.
      17. Chemistry, Geology & Anthropology.
      18. Chemistry, Mathematics & Statistics.

19. Chemistry, Anthropology & Defence Studies.
20. Geology, Mathematics & Statistics.
21. Mathematics, Defence Studies & Statistics
22. Anthropology, Mathematics & Statistics
23. Chemistry, Anthropology & Applied Statistics
24. Zoology, Botany & Anthropology
25. Physics, Mathematics & Electronics.
26. Physics, Mathematics & Computer Application
27. Chemistry, Mathematics & Computer Application
28. Chemistry, Bio-Chemistry & Pharmacy
29. Chemistry, Zoology & Fisheries.
30. Chemistry, Zoology & Agriculture
31. Chemistry, Zoology & Sericulture
32. Chemistry, Botany & Environmental Biology
33. Chemistry, Botany & Microbiology
34. Chemistry, Zoology & Microbiology
35. Chemistry, Industrial Chemistry & Mathematics
36. Chemistry, Industrial Chemistry & Zoology
37. Chemistry, Biochemistry, Botany
38. Chemistry, Biochemistry, Zoology
39. Chemistry, Biochemistry, Microbiology
40. Chemistry, Biotechnology, Botany
41. Chemistry, Biotechnology, Zoology
42. Geology, Chemistry & Geography
43. Geology, Mathematics & Geography
44. Mathematics, Physics & Geography
45. Chemistry, Botany & Geography

(iii) Practical in case prescribed for core subjects.

7. Any candidate who has passed the B.Sc. examination of the University shall be allowed to present himself for examination in any of the additional subjects prescribed for the B.Sc. examination and not taken by him at the degree examination. Such candidate will have to first appear and pass the B.Sc. Part-I examination in the subjects which he proposes to offer and then the B.Sc. Part-II and Part-III examination in the same subject. Successful candidates will be given a certificate to that effect.

8. In order to pass at any part of the three year degree course examination an examinee must obtain not less than 33% of the total marks in each subject/ group of subjects. In subject/ group of subjects where both theory and practical examination are provided an examinee must pass in both theory and practical parts of the examination separately.

9. Candidate will have to pass separately at the Part-I, Part-II and Part-III examinations. No division shall be assigned on the result of the Part-I and Part-II examination. In determining the division of the final examination, total marks obtained by the examinees in their Part-I, Part-II and Part-III examination in the aggregate shall be taken in to account. Provided in case of candidate who has passed the examination through supplementary examination having failed in one subject/ group only, the total aggregate marks being carried over for determining the division shall include actual marks obtained in the subject/ group in which he appeared at the supplementary examination.

10. Successful examinee at the Part-III examination obtaining 60% or more marks shall be places in the First Division, those obtaining less than 60% but not less than 45% marks in the Second Division and other successful examinees in the Third Division.

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In clause 6(ii) after serial No. 41, 42-45 inserted. Approved in 23rd Co-Ordination committee Dated 15-01-2014.

SCHEME OF EXAMINATION

Subject	Paper	Max. Marks	Total Marks	Min. Marks
Environmental Studies		75	100	33
Fild Work		25		
Foundation Course				
Hindi Language	I	75	75	26
English Language	I	75	75	26

नोट : प्रत्येक खंड में से 2 (दो) प्रश्न हल करने होगे । सभी प्रश्न समान अंक के होंगे ।

Three Elective Subject :

1.	Physics	I	50	100	33
		I	50		
		Practical		50	17
2.	Chemistry	I	33		
		I	33	100	33
		III	34		
		Practical		50	17
3.	Mathematics	I	50		
		I	50	150	50
		III	50		
4.	Botany	I	50	100	33
		I	50		
		Practical		50	17
5.	Zoology	I	50	100	33
		I	50		
		Practical		50	17
6.	Geology	I	50	100	33
		I	50		
		Practical		50	17
7.	Statistics	I	50	100	33
		I	50		
		Practical		50	17
8.	Anthropology	I	50	100	33
		I	50		
		Practical		50	17

Subject	Paper	Max. Marks	Total Marks	Min. Marks
9. Defence Studies	I	50		
	II	50	100	33
	Practical		50	17
10. Micro Biology	I	50		
	II	50	100	33
	Practical		50	17
11. Computer Science	I	50		
	II	50	100	33
	Practical		50	17
12. Information Technology	I	50		
	II	50	100	33
	Practical		50	17
13. Industrial Chemistry	I	34		
	II	33	100	33
	III	33		
	Practical		50	17
14. Bio Chemistry	I	50		
	II	50	100	33
	Practical		50	17
15. Bio Technology	I	50		
	II	50	100	33
	Practical		50	17

USE OF CALCULATORS

The Students of Degree/P.G. Classes will be permitted to use of Calculators in the examination hall from annual 1986 examnination on the following conditions as per decision of the standing committee of the Academic Council at its meeting held on 31-1-1986.

1. Student will bring their own Calculators.
2. Calculators will not be provided either by the University or examination centres.
3. Calculators with, memoty and following variables be permitted +, –, x, , square, reciprocal, expotentials log, square root, trignometric functions, wize, sine, cosine, tangent etc. factiorial summation, xy, yx and in the light of objective approval of merits and demerits of the viva only will be allowed.

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Part - I

SYLLABUS FOR ENVIRONMENTAL STUDIES AND HUMAN RIGHTS

(Paper code-0828)

MM. 75

इन्वारमेंटल साईंसेस के पाठ्यक्रम को स्नातक स्तर भाग–एक की कक्षाओं में विश्वविद्यालय अनुदान आयोग के निर्देशानुसार अनिवार्य रूप से शिक्षा सत्र 2003–2004 (परीक्षा 2004) से प्रभावशील किया गया है। स्वशासी महाविद्यालयों द्वारा भी अनिवार्य रूप से अंगीकृत किया जाएगा।

भाग 1, 2 एवं 3 में से किसी भी वर्ष में पर्यावरण प्रश्न–पत्र उत्तीर्ण करना अनिवार्य है। तभी उपाधि प्रदाय योग्य होगी।

पाठ्यक्रम 100 अंकों का होगा, जिसमें से 75 अंक सैद्धांतिक प्रश्नों पर होंगे एवं 25 अंक क्षेत्रीय कार्य (Field Work) पर्यावरण पर होंगे।

सैद्धांतिक प्रश्नों पर अंक – 75 (सभी प्रश्न इकाई आधार पर रहेंगे जिसमें विकल्प रहेगा)

(अ) लघु प्रश्नोंत्तर – 25 अंक

(ब) निबंधात्मक – 50 अंक

Field Work – 25 अंकों का मूल्यांकन आंतरिक मूल्यांकन पद्धति से कर विश्वविद्यालय को प्रेषित किया जावेगा। अभिलेखों की प्रायोगिक उत्तर पुस्तिकाओं के समान संबंधित महाविद्यालयों द्वारा सुरक्षित रखेंगे।

उपरोक्त पाठ्यक्रम से संबंधित परीक्षा का आयोजन वार्षिक परीक्षा के साथ किया जाएगा।

पर्यावरण विज्ञान विषय अनिवार्य विषय है, जिसमें अनुत्तीर्ण होने पर स्नातक स्तर भाग–एक के छात्र/छात्राओं को एक अन्य विषय के साथ पूरक की पात्रता होगी। पर्यावरण विज्ञान के

सैद्धांतिक एवं फील्ड वर्क के संयुक्त रूप से 33% (तैंतीस प्रतिशत) अंक उत्तीर्ण होने के लिए अनिवार्य होंगे।

स्नातक स्तर भाग–एक के समस्त नियमित/भूतपूर्व/अमहाविद्यालयीन छात्र/छात्राओं को अपना फील्ड वर्क सैद्धांतिक परीक्षा की समाप्ति के पश्चात् 10 (दस) दिनों के भीतर संबंधित महाविद्यालय/परीक्षा केन्द्र में जमा करेंगे एवं महाविद्यालय के प्राचार्य/केन्द्र अधिक्षक, परीक्षकों की नियुक्ति के लिए अधिकृत रहेंगे तथा फील्ड वर्क जमा होने के सात दिनों के भीतर प्राप्त अंक विश्वविद्यालय को भेजेंगे।

UNIT-I THE MULTI DISCIPLINARY NATURE OF ENVIRONMENTAL STUDIES

Definition, Scope and Importance

Natural Resources:

Renewable and Nonrenewable Resources

(a) Forest resources: Use and over-exploitation, deforestation, Timber extraction, mining, dams and their effects on forests and tribal people and relevant forest Act.

(b) Water resources: Use and over-utilization of surface and ground water, floods drought, conflicts over water, dams benefits and problems and relevant Act.

(c) Mineral resources: Use and exploitation, environmental effects of extracting and using mineral resources.

(d) food resources: World food problems, changes caused by agriculture and overgrazing, effects of modern agriculture, fertilizer-pesticide problems, water logging , salinity.

(e) Energy resources: Growing energy needs, renewable and non-renewable energy sources, use of alternate energy sources.

(f) Land resources: Land as a resource, land degradation, man induced landslides soil erosion and desertification.

(12 Lecture)

UNIT-II ECOSYSTEM

(a) Concept, Structure and Function of and ecosystem

- Producers, consumers and decomposers.
- Energy flow in the ecosystem

- Ecological succession
- Food chains, food webs and ecological pyramids.
- Introduction, Types, Characteristics Features, Structure and Function of Forest, Grass, Desert and Aquatic Ecosystem.

(b) Biodiversity and its Conservation

- Introduction - Definition: genetic. species and ecosystem diversity
- Bio-geographical classification of India.
- Value of biodiversity: Consumptive use. productive use, social ethics, aesthetic and option values.
- Biodiversity at global, National and local levels.
- India as mega-diversity nation.
- Hot spots of biodiversity.
- Threats to biodiversity: habitat loss, poaching of wildlife, man-wild life conflict.
- Endangered and endemic species of India.
- Conservation of biodiversity: In situ and Ex-situ conservation of biodiversity.

(12 Lecture)

UNIT- III

(a) Causes, effect and control measures of

- Air water, soil, marine, noise, nuclear pollution and Human population.
- Solid waste management: Causes, effects and control measures of urban and industrial wastes.
- Role of an individual in prevention of pollution.
- Disaster Management : floods, earthquake, cyclone and landslides.

(12 Lecture)

(b) Environmental Management

- From Unsustainable to sustainable development.
- Urban problems related to energy.

- Water conservation, rain water harvesting, watershed management.
- Resettlement and rehabilitation of people, its problems and concerns.
- Environmental ethics: Issues and possible solutions.
- Climate change, global warming, acid rain, ozone layer depletion, nuclear accidents and holocaust.
- Wasteland reclamation
- Environment protection Act: Issues involved in enforcement of environmental legislation.
- Role of Information Technology in Environment and Human Health.

UNIT- IV

General background and historical perspective- Historical development and concept of Human Rights, Meaning and definition of Human Rights, Kind and Classification of Human Rights.

Protection of Human Rights under the UNO Charter, protection of Human Rights under the Universal Declaration of Human Rights, 1948.

Convention on the Elimination of all forms of Discrimination against women.

Convention on the Rights of the Child, 1989.

UNIT- V

Impact of Human Rights norms in India, Human Rights under the Constitution of India, Fundamental Rights under the Constitution of India, Directive Principles of State policy under the Constitution of India, Enforcement of Human Rights in India.

Protection of Human Rights under the Human Rights Act, 1993- National Human Rights Commission, State Human Rights Commission and Human Rights court in India.

Fundamental Duties under the Constitution of India.

Reference/ Books Recommended

1. SK Kapoor- Human rights under International Law and Indian Law.
2. HO Agrawal- Internation Law and Human Rights
3. एस.के. कपूर – मानव अधिकार
4. जे.एन. पान्डेय – भारत का संविधान
5. एम.डी. चतुर्वेदी – भारत का संविधान
6. J.N.Pandey - Constitutional Law of India
7. Agarwal K.C. 2001 Environmental Biology, Nidi pub. Ltd. Bikaner

8. Bharucha Erach, the Biodiversity of India, Mapin pub. Ltd. Ahmedabad 380013, India, Email: mapin@icenet.net(R)
9. Bruinner R.C. 1989, Hazardous Waste Incineration. McGraw Hill Inc.480p
10. Clark R.S. Marine pollution, Clanderson press Oxford (TB)
11. Cuningham, W.P.Cooper. T.H.Gorhani, E & Hepworth. M.T,200
12. Dr. A.K.- Environmental Chemistry. Wiley Eastern Ltd.
13. Down to Earth, Center for Science and Environment (R)
14. Gloick, H.P. 1993 Water in crisis. pacific institute for studies in Deve. Environment & Security. Stockholm Eng. Institute. Oxford University, Press. m 473p.
15. Hawkins R.E. Encyclopedia of Indian Natural History, Bombay Natural History Society, Mumbai (R)
16. Heywood, V.H. & Watson, T.T.1995 Global Biodiversity Assessment, Cambridge Univ. Press 1140p
17. Jadhav H. & Bhosale, V.H. 1995 Environmental Protection and Law. Himalaya pub. House, Delhi 284p
18. Mckinney M.L.& School R.M.1996, environmental Science systems & solutions, web enhanced edition, 639p
19. Mhadkar A.K. Matter Hazardous, Techno-Science publication(TB)
20. Miller T.G.Jr. Environment Science, Wadsworth publication co. (TB)
21. Odum E.P.1971, Fundamentals of Ecology, W.B. Saunders Co. USA,574p
22. Rao M.N. & Datta, A.K. 1987, Waste water treatment. Oxford & IBH pub.co.pvt. Ltd 345p
23. Sharma B.K. 2001, Environmental chemistry, Goel pub. House, Meerut
24. Survey of the Environment, The Hidu(M)
25. Townsend C. Harper J. And Michael Begon, Essentials of Ecology, Blackwell Science(TB)
26. Trivedi R.K.Handbook of Environment Laws, Rules, Guidlines, Compliances and Standards, Vol land II, Environment Media(R)
27. Trivedi R.K. and P.K. Goel, Introduction to air pollution, Techno-Science publication (TB)
28. Wanger K.D.1998, Environmental Management. W.B. Saunders Co. Philadelphia, USA 499p

आधार पाठ्यक्रम

प्रश्न पत्र - प्रथम

हिन्दी भाषा पूर्णांक - 75

(पेपर संख्या 0791)

नोट :

1. प्रश्न पत्र 75 अंक का होगा ।
2. प्रश्न पत्र अनिवार्य होगा ।
4. इसके अंक श्रेणी निर्धारण के लिए जोड़े जावेंगे ।
5. प्रत्येक इकाई के अंक समान होंगे ।

पाठ्य विषय -

इकाई-1 पल्लवन, पत्राचार तथा अनुवाद एवं पारिभाषिक शब्दावली ।

इकाई-2 मुहावरे-लोकोक्तियाँ, शब्दशुद्धि, वाक्य शुद्धि, शब्द ज्ञान-पर्यायवाची, विलोम, अनेकार्थी, समश्रुत (समानोचरित) अनेक शब्दों के लिए एक शब्द ।

इकाई-3 देवनागरी लिपि की विशेषता, देवनागरी लिपि एवं वर्तनी का मानक रूप ।

इकाई-4 कम्प्यूटर में हिन्दी का अनुप्रयोग, हिन्दी में पदनाम ।

इकाई-5 हिन्दी अपठित, संक्षेपण, हिन्दी में संक्षिप्तीकरण ।

पाठ्य क्रम के लिए पुस्तकें -

1. भारतीयता के स्वर साधन धनंजय वर्मा - म. प्र. ग्रंथ अकादमी ।
2. नागरी लिपि और हिन्दी - अनंत चौधरी - ग्रंथ अकादमी पटना ।
3. कम्प्यूटर और हिन्दी - हरिमोहन - तक्षशिला प्रकाशन, दिल्ली ।

FOUNDATION COURSE

PAPER - II

ENGLISH LANGUAGE M.M. 75

(paper code - 0792)

UNIT-1 **Basic Language skills : Grammar and Usage.**

Grammar and Vocabulary based on the prescribed text.
To be assessed by objective / multiple choice tests.

(Grammar - 20 Marks
Vocabulary - 15 Marks)

UNIT-2 **Comprehension of an unseen passage.** 05

This should imply not only (a) an understanding of the passage in question, but also (b) a grasp of general language skills and issues with reference to words and usage

within the passage and (c) the Power of short independent composition based on themes and issues raised in the passage.

To be assessed by both objective multiple choice and short answer type tests.

UNIT-3 **Composition :** Paragraph writing 10

UNIT-4 **Letter writing** (The formal and one Informal) 10

Two letters to be attempted of 5 marks each. One formal and one informal.

UNIT-5 **Texts :** 15

Short prose pieces (Fiction and not fiction) short poems, the pieces should cover a range of authors, subjects and contexts. With poetry if may sometimes be advisable to include pieces from earlier periods, which are often simpler than modern examples. In all cases, the language should be accessible (with a minimum of explanation and reference to standard dictionaries) to the general body of students schooled in the medium of an Indian language.

Students should be able to grasp the contents of each plece; explain specific words, phrases and allusions; and comment on general points of narrative or argument. Formal Principles of Literary criticism should not be taken up at this stage.

To be assessed by five short answers of three marks each.

BOOKS PRESCRIBED -

English Language and Indian Culture - Published by M.P. Hindi Granth Academy Bhopal.

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PHYSICS

OBJECTIVES OF THE COURSE

The undergraduate training in Physics is aimed at providing the necessary inputs so as to set forth the task of bringing about new and innovative indeas/concepts so that the formulated model curricula in physics becomes in tune with the changing scenario and incorporate new and rapid advancements and multi disciplinary skills, societal relevance, global interface, self sustaining and supportive learning.

It is desired that under graduate i.e. B.Sc. level besides grasping the basic concepts of physics should in addition have broader vision. Therefore, they should be exposed to societal interface of physics and role of physics in the development of technologies.

EXAMINATION SCHEME :

1. There shall be 2 theory papers of 3 hours duration each and one practical paper of 4 hours duration. Each paper shall carry 50 marks.
2. Numerical problems of at least 30% will compulsorily be asked in each theory paper.
3. In practical paper, each student has to perform two experiments, one from each group as listed in the list of experiments.
4. Practical examination will be of 4 hours duration-one experiment to be completed in 2 hours.

   The distribution of practical marks will be as follows:

Experiment	:	15 + 15 = 30
Viva Voce	:	10
Internal assessment	:	10

5. The external examiner should ensure that atleast 16 experiments are in working order at the time of examination and submit a certificate to this effect.

PAPER - I

MECHANICS, OSCILLATIONS AND PROPERTIES OF MATTER

(paper code - 0793)

UNIT-1 Laws of motion, motion in a uniform field, components of velocity and acceleration in different coordinate systems. (Cartesian, Cylindrical and Spherical) uniformly rotating frame, centripetal acceleration, Coriolis force and its applications. Motion under a central force, Kepler's laws. Gravitational law and field.

Potential due to a spherical body. System of particles, center of mass, equation of motion, conservation of linear & angular momentum, conservation of energy.

UNIT-2 Rigid body notion, rotational motion, moments of inertia and their products, principal moments & axes, Introductory idea of Euler's equations. potential well and periodic oscillations, case of harmonic small oscillations, differential equation and its solution, kinetic and potential energy, examples of simple harmonic oscillations, spring and mass system, simple and compound pendulum, torsional pendulam.

UNIT-3 Bifilar oscillations, helmholtz resonator, LC circuit, vibrations of a magnet, oscillations of two masses connected by a spring. Superpostion of two simple harmonc motions of the same frequency, Lissajous figures, case of different frequencies. Damped harmonc oscillator', power dissipation, quality factor, examples, driven (forced)

harmonic oscillator, transient and steady states, power absorption, resonance.

Note : (The emphasis here should be on the mechanical aspects and not on the details of the apparatus mentioned, which are indicated as applications of principles involved)

UNIT-4 E as an accelerating field, electron gun, case of discharge tube, linear accelerator, E as deflecting field- CRO sensitivity,

Transverse B field, 180° deflection, mass spectrograph, curvatures of tracks for energy determination, principle of a cyclotron. Mutually perpendicular E and B fields-velocity selector, its resolution. Parallel E and B fields, positive ray parabolas, discovery of isotopes, elements of mass spectrography, principle of magnetic focussing (lens.)

UNIT-5 Elasticity, small deformations, Hooke's law elastic constants for an isotropic solid and relations between them beams supported at both the ends, cantilever, torsion of cylinder, bending moments and shearing forces. Kinematics of moving fluids, equations of continuity. Euler's equation, Benaulli's theorem, viscous fluids, steamline and turbulent flow. Poiseulle's law. Capillary tube flow, Reynold's number, Stokes law, surface tension and surface energy, molecular interpretation of surface tension, pressure on a curved liquids surface, wetting.

TEXT AND REFERENCE BOOKS :

E M purcell, Ed Berkely physics course, vol. Mechnics (Mc. Gr. Hill) R P Feynman, R B lighton and M Sands, the feynman lectures in physics, vol I (B) publications, Bombay, Delhi, Calcutta, Madras

D P Khandelwal, Oscillations and waves (Himalaya Publishing House Bombay)

R. K. Ghosh, The Mathematics of waves and vibrations (Macmillan 1975) .

J.C. Upadhyaya- Mechanics (Hindi and English Edition.)

D.S. Mathur- Mechanics and properties of matter.

Brij lal and subramanium- Osccillations and waves.

Resnick and Halliday- Volume I

PAPER - II

ELECTRICITY, MAGNETISM AND ELECTROMAGNETIC THEORY

(paper code - 0794)

UNIT-1 Functions of two and three variables, partial derivatives, geometrical interpretation of partial derivatives of functions of two variables. Total differential of a function of two and three variables. Repeated integrals of a function of more than one variable, definition of a double and triple integral. Scalars and vectors, dot and cross products, triple vector product, gradient of a scalar field and its geometrical interpretation, divergnence and curl of a vector field, line, surface and volume integrals, flux of a vector field. Gauss's divergence theorem, Green's theorem and Stokes theorm.

UNIT-2 Columbs law in vacuum expressed in Vector forms calculations of E for simple distributions of charges at rest, dipole and quadrupole fields.

Work done on a charge in a electrostatic field expressed as a line integral, conservative nature of the electrostatic field. Electric potential $\phi, \vec{E} = -\vec{\nabla}\phi$, torque on a dipole in a uniform electric field and its energy, flux of the electric field, Gauss's law and its application for finding E for symmetric charge distributions, Gussian pillbox ? Fields at the surface of a conductor screening of E field by a conductor, capacitors,

electrostatic field energy, force per unit area of the surface of a conductor in an electric field, conducting sphere in a uniform electric field, point charge in front of a grounded infinite conductor.

UNIT-3 Dielectrics parallel plate capacitor with a dielectric, electric susceptibility, permittivity and dielectric constant, polarization and polarization vector, displacement vector $\vec{D}$, molecular interpretation of Claussius- Mossotti equation.

Steady current, current density J, non-steady curents and continuity equation, kirchoff's law and analysis of multiloop circuits, rise and decay of current in LR and CR circuits, decay constants, transients in LCR circuits, AC circuits, complex numbers and their applications in solving AC circuit problems, complex impedance and reactance, series and parallel resonance, Q factor, power consumed by an a AC circuit, power factor,.

UNIT-4 Force on a moving charge, Lorentz force equation and definition of B, force on a straight conductor carrying current in a uniform magnetic field, torque on a current loop, magnetic diploe moment, angular momentum and gyromagnetic ratio.

$\vec{\nabla} \cdot B = O$, $\vec{\nabla} \times \vec{B} = \mu \vec{J}$. Biot and Savart's law, Ampere's law field due to a magnetic dipole, magnetization current, magnetization vector, magnetic permeability (Linear cases), interpretation of a bar magnet as a surface distribution of sinusoidal current.

UNIT-5 Electromagnetic induction, Faraday's law, electromotive force, $\varepsilon = \oint E.dr$, integral and differential forms of Faraday's law Mutual and self inductance, Transformers, energy in a static magnetic field. Maxwell's displacement current, Maxwells' equations, electromagnetic field energy density.

The wave equation satisfied by E and B, plane electromagnetic waves in vacuum, Poyning's vector.

TEXT AND REFERENCE BOOK :

Berkeley Physics Course, Electricity and Magnetism, Ed. E.M. Purcell (Mc Graw - Hill)

Halliday and Resnik, Physics, Vol. 2

D J Grifith, Introduction to Electrodynamics (Prentice-Hall of India)

Raitz and Milford, Electricity and Magnetism (Addison-Wesley)

A S Mahajan and A A Rangwala, Electricity and Magnetism (Tata Mc Graw-hill)

A M Portis, Electromagnetic fields.

Pugh & Pugh, Principles of Electricity and Magnetism (Addison-Wesley)

Panofsky and Phillips, Classical Electricity and Magnetism, (India Book House)

S S Atwood, Electricity and Magnetism (Dover).

PRACTICAL

Minimum 16 (Eight from each group)

EXPERMENTS OUT OF THE FOLLOWING OR SIMILAR EXPERIMENTS OF EQUAL STANDARD

GROUP-A

1. Study of laws of parallel and perpendicular axes for moment of inertia.
2. Study of conservation of momentum in two dimensional oscillations.
3. Study of a compound pendulum.

4. Study of damping of a bar pendulum underr various mechanics.
5. Study of oscillations under a bifilar suspension.
6. potential energy curves of a 1- Double system and oscillations in it for various amplitudes.
7. Study of oscillations of a mass under different combinations of springs.
8. Study of bending of a cantilever or a beam.
9. Study of torsion of wire (static and dynamic methods)
10. Study of flow of liquids through capillaries.
11. Determination of surface tension of a liquid by different methods.
12. Study of viscosity of a fluid by different methods.

GROUP-B

1. Characteristics of a baillistic galvanometer.
2. Setting up and using an electroscope or electrometer.
3. Use of a vibration magnetometer to study a field.
4. Study of B field due to a current.
5. Measurement of low resistance by Carey-Foster bridge or otherwise.
6. Measurement of inductance using impedance at different frequencies.
7. Study of decay of currents in LR and RC circuits.
8. Response curve for LCR circuit and resopapce frequence and quality factor.
9. Sensitivity of a cathode-ray oscilloscope.
10. Characteristics of a choke.
11. Measurement of inductance.
12. Study of Lorentz force.
13. Study of discrete and continuous LC transmission lines.
14. Elementary Fortran programs, flowcharts and their interpretation.
15. To find the product of two matrices.
16. Numerical solution of equation of motion.
17. To find the roots of quadratic equation.

TEXT AND REPERENCE BOOKS:

B saraf et al Mechanical Systems (Vikas Publishing House, New Delhi)

D.P. Khandelwal, A Laboratory Manual of Physics for Undergraduate classes (Vani Publication House, New Delhi)

C G Lambe Elements of Statistics (Longmans Green and Co London New York, Toronto)

C Dixon, Numerical Analysis.

S Lipsdutz and A Poe, Schaum's Outline of theory and problems of programming with fortran (MC Graw-Hill Book Company, Singapore 1986)

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CHEMISTRY

The new curriculam will comprise of Three papers of 33.33 and 34 marks each and practical work of 50 marks. The curriculam is to be completed in 180 working days as per the UGC norms & conforming to the directives of the Govt. of Chhattisgarh. The theory papers are of 60 hrs. each duration & the practical work of 180 hrs. duration.

PAPER-I

INORGANIC CHEMISTRY M.M. 33

(paper code - 0795)

UNIT-1 A. ATOMIC STRUCTURE

Idea of de-Broglie matter-waves, Heisenberg Uncertainty principle, Schrodinger wave equation, significance of , radial & angular wave functions and probability distribution curves, Atomic orbital and shapes of s, p, d orbital's, Aufbau and Pauli exclusion principles, Hund's Multiplicity rule, electronic configuration of the elements, effective nuclear charges.

B. PERIODIC PROPERITIES

Ionization energy, electron gain enthalpy and electro negativity, trend in periodic table and applications in predicting and explaining the chemical behavior.

UNIT-2 CHEMICAL BONDING

Covalent Bond : Valence bond theory and its limitations, directional charectaristics of covalent bond, various types of hybridization & shapes of simple inogranic molecules and ions. Valence shell electron pair repulsion (VSEPR) theory to $NH_3, H_3O^+, SF_4, ClF_3,$ Ψ and Ψ^2 ICl_2^- and H_2O . M.O. Theory, homonuclear & hetronuclear bond strength & bond energy, percentage ionic character from dipole moment & electronegativity difference.

UNIT-3 CHEMICAL BONDING

Ionic Solids- Ionic structures, radius ratio & co-ordination number, limitation of radius, ratio rule, lattice defects, semiconductors, lattice energy Born- Haber cycle, Solvation energy and solubility of ionic solids, polarising power & polarisabilitry of ions, Fajans rule, Metallic bond-free electron, Valence bond & band theories.

UNIT-4 A. s-BLOCK ELEMENTS

Comparative study, salient features of hydrides, solvation & complexation tendencies including their function in biosystems and introduction to alkyl & aryls, Derivatives of alkali and alkaline earth metals.

B. CHEMISTRY OF NOBLE GASES

Chemical properties of the noble gases, chemistry of xenon, structure binding in xenon compounds.

UNIT-5 A. p-BLOCK ELEMENTS

Halides hydrides, oxides and oxyacids of Boron, Aluminum, Nitrogen and Phosphorus, boranes, borazines, fullerenes and silicates, interhalogens and pseudohalogens.

B. INORGANIC CHEMICAL ANALYSIS

Chemical principles involved in the detection of acids and basic radicals including interfering radicals.

REFERENCE BOOKS :

1. Basic Inorganic Chamistry, F.A Cotton, G. Wilkinson and P.L. Gaus, Wley
2. Conciso Inorganic Chemistry, J.D. Lee, ELBS
3. Concepts of models of Inorganic Chemistry, B. Douglas, D. Mc Daniel and J Alexander, John Wiley.
4. Inorganic Chemistry, D.E. Shriver, P.W. Atkins and C.H.L. angford, Oxford.
5. Inorganic Chemistry, W.W. Porterfield, Addison- Wesley.
6. Inorganic Chemistry, A.G. Sharp, ELBS.
7. Inorganic Chemisty, G.L. Micssels and D.A. Tarr, Prentice Hall.
8. Advanced Inorganic Chemistry, Satya Prakash
9. Advanced Inorganic Chemistry, Agarwal & Agarwal
10. Advanced Inorganic Chemistry, Puri & Sharma, S. Naginchand
11. Inorganic Chemistry, Madan, S. Chand
12. Aadhunik Akarbnic Rasayan, R.K. Shrivastav & P.S. Jain, Goel Publication.
13. Uchchattar Akarbnic Rasayan, Satya Prakash & G.D. Tuli, Shyamal Prakashan.
14. Uchchattar Akarbnic Rasayan, Puri & Sharma
15. Akarbnic Rasayan, Bhagchandni, Sahitaya Publication.
16. Rasayan Vigyan, Bhatnagar, Arun Pablication.

PAPER - II

ORGANIC CHEMISTRY M.M. 33

(paper code - 0796)

UNIT-I ELECTONIC STRUCTURE & BONDING

A. Resonance, Hyperconjugation, Inductive and other field effects, Aromaticity, hydrogen bonding.

B. MECHANISM OF ORGANIC REACTIONS

Homolytic & heterolytic bond breaking, types of reagents-electrhpiles & nucleophiles. Structure and reactivity of reaction intermediates-Carbocation, carbanions free radicals, carbenes and niterenes.

UNIT-2 STEREOCHEMISTRY OF ORGANIC COMPOUNDS

A. Optical Isomerism - enantiomers, diasterecmers, threo and erythro meso compound, resolution of enantiomers, inversion, retention and recemization, Relative and absolute configuration, Sequence rules, D and L and R & S systems of nomenclature.

B. Geometrical isomerism - Syn and anti forms, E & Z system of nomenclature, properties of cis-trans isomers.

UNIT-3 ALIPHATIC AND AROMATIC RING COMPOUNDS

A. Cycloalkanes- Nomenclature, methods of formation, chemical reactions, Baeyer's strain theory and its limitations. Ring strain in small rings (cyclopropane and cyclobutane), theory of strainless rigns. The case of cyclopropane ring: banana bonds.

B. Mono-nuclear and polynuclear aromatic ring. Structure of benzene & naphthalene. Molecular formula and Kekule structure. Aromatic electrophilic substitution. General pattern of the mechanism, role of σ and π complexes. Electrophilic substitution in naphthalene.

UNIT-4 ALKENES, DIENES AND ALKYNES

A. Mechanism of dehydration of alcohols.

B. Chemical reactions of alkenes- Mechanisms involved in electrophilic and free radical additions, hydroboration-oxidation, oxymercuration- reduction. epoxidation. Substitution at the allylic and vinylic positions of alkenes. Structure of allenes and butadiene, chemical reaction- 1,2 and 1,4 addition, Diel-Alder reaction.

Chemical reactions of alkynes and acidity of alkynes. Electrophilic and nucleophilic addition reactions, hydroboration and oxidation with ozone and $KMnO_4$.

UNIT-5 ARENES AND AROMATICITY

A. Alkyl halides and Aryl Halides

Mechanism and stereochemistry of nucleophilic substitution reactions and alkyl halides and aryl halides with energy profile diagrams. SN1, SN2, SNi mechanisms.

B. Mechanisms and stereochemistry of elimination reaction and alkyl halides. Elimination Vs Substitution.

REFERENCE BOOK :

1. Organic Chemistry, Morrison and Boyd, Prentic- Hall
2. Organic Chemistry, L.G. Wade Jr, Prentice-Hall
3. Fundamentals of Organic Chemistry, Solomons, John Wiley
4. Organic Chemistry, Vol. I, II, III, S.M. Mukherjee, S.P. singh and R.P. Kapoor, wiley-eastern (New-Age).
5. Organic Chemistry, F.A. Carey, MC Graw Hill
6. Introduction to Organic Chemistry, Struiweisser, Heathock and Kosover, Macmillan.
7. Organic Chemistry, P.L.Soni.
8. Organic Chemistry, Bahi & Bahl
9. Organic Chemistry, Joginder Singh.
10. Carbanic Rasayan, Bashi & Bahi
11. Carbanic Rasayan, R.N. Singh,. S.M.I. Gupta, M.M. Bakodia & S.K. Wadhwa.
12. Carbanic Rasayan, Joginder Singh.
13. Carbanic Rasayan, P.L. Soni.
14. Corbanic Rasayan, Bhagchandani, Sahitya Bhawan Publication.
15. Rasayan Vigyan, Bhatnagar, Arun Prakashan.

PAPER - III

PHYSICAL CHEMISTRY M.M.34

(paper code - 0797)

UNIT-1 MATHEMATICAL CONCEPTS FOR CHEMIST AND COMPUTER

A. Logarithmic relations, curve sketching linear graphs, Properties of straight line, sloped and intercept, Differentiation of functions, Partial differentiation, Integration of some useful and relavant functions, Maxima and minima, Permutation and combination, Probability.

B. General introduction to computers, components of computer, hardware and software, input and output devices; binary numbers, Introduction to computer languages, Programming, Operation systems.

UNIT-2 A. MOLECULAR VELOCITIES :

Root mean square velocity average and most probable velocities, Maxwell's law of distribution of molecular velocites of gases, (Graphical interpretation), effect of temperature on distribution of molecular velocities, collision frequency, mean free path, Joule- Thompson effect, Liquification of gases.

B. Deviation from ideal behavior, Real gases, Vander Waal equation of state, Relationship, Vander waal constant and critical constants, Law of corresponding state.

UNIT-3 A. LIQUID STATE

Inter molecular forces, magnitude of intermolecular force, structure of liquids, Properties of liquids, viscosity and surface tension.

B. Ideal and non ideal solutions, modes of representing concentration of solutions, activity and activity coefficient.

Dilute solution : Colligative Properties, Lowering of vapor pressure of solvent, Roults law, Osmosis, Vant Hoff Theory of dilute solutions, measurements of Osmotic pressure, relationship between lowering of vapour pressure and osmotic pressure. Elevation of boiling point, Depression in freezing point, abnormal molar masses, Depress of dissociation and association of solutes, Vant Hoff factor.

UNIT-4 A. LIQUID CRYSTALS :

Defference between liquid Crystal, solids and liquids, Classification, Structure of nematic and cholestic phases, Thermography, Seven segment cell, applications of liquid Cristals.

B. COLLOIDAL STATE :

Classification, Optical, Kinetic, and Electrical Properties of colloid, Coagulation, Handy Schulze law, flocculation value, Protection, Gold number, Emulsion, micelle. Gel, Syneresis and thixotrophy, Application of colloid.

C. SOLID STATE

Space lattices, unit cells, Elements of Symmetry in crystallize solids, X-rays diffraction, Mills indices, identification of unit cell by Broggs Spectrometer, Powder method, Neutron and electron diffraction (Elementry idea only)

UNIT-5 A. CHEMICAL KINETICS

Rate of reaction, Factors influencing rate of reaction, rate constant, Order and

molecularity of reactions, Zero, first and second order reaction, methods of determining order of reaction, Complex reactions : Consecutive, opposing and side reactions, Chain reactions.

Temperature dependence of raction rate, Arrhenius theory, Physical significance of Activation energy, collision theory, demerits of collision theory, non mathematical concept of transition state theory.

B. CATALYSIS :

Homogeneous and Heterogeneous Catalysis, types of catalyst, characteristic of Catalyst, Enzyme Catalysed reactions, Micellor catalysed reactions, Industrial applications of Catalysis.

REFERENCE BOOKS :

1. Physical chemistry, G.M. Barrow, International student edition, MC Graw Hill
2. Basic programming with application, V.K. Jain, Tata Mc Graw-Hill
3. Computers & Common sense, R. Hunt & Shelly, Prentice-Hall
4. University general chemistry, C.N.R. Rao Macmillan.
5. Physical Chemistry, R.A. Alberty, Wiley Eastern.
6. The elemetns of Physical Chemistry, P.W. Atkin, Oxford.
7. Physical Chemistry throught problems, S.K. Dogra & Dogra, wiley Eastern.
8. Physical Chemistry, B.D. Khosla
9. Physical Chemistry, Puri & Sharma
10. Bhoutic Rasayan, Puri, Sharma & Palhania, Vishal Publishing Company.
11. Bhoutic Rasayan, P.L. Soni
12. Bhoutic Rasayan, Bahi & Tuli. Pb^{2+},
13. Bhoutic Rasayan, I. R. Gambin
14. Bhoutic Rasayan, Bhagchandani, Sahitya Bhawan Publication.
15. Rasayan Vigyan, Bhatnagar, Arun Prakashan.

PAPER - IV

LABORATORY COURSE

180 Hrs.

The following experiments are to be conducted during the curriculam

1. Inorganic Chemistry

Semimicro Analysis - cations analysis, separation and identification of ions from

$Bi^{3+}, Cu^{2+}, Cd^{2+}, Sb^{3+}, Sn^{2+,4+}, Fe^{3+}, Al^{3+}, Cr^{3+}, Ni^{2+}, Co^{2+}Zn^{2+}, Mn^{2+}, Ba^{2+}, Sr^{2+}, Ca^{2+}$, Mg^{2+}, NH^{4+} and Anions $CO_3^{2-}, SO_3^{2-}, S^{2-}, SO_4^{2-}, NO_2^-, NO_3^-, Cl^-, Br^-, I^-$, CH_3COO^-, $C_2O_4^{2-}, BO_3^{3-}, F^-$.

2. Organic Chemistry

i Calibration of Thermometer

$80^o - 82^o$ (Naphthalene), $113.5^o - 114^o$ (Acetanilide), $132.5^o - 133^o$ (Urea), 100^o (Distilled Water)

ii Determination of Melting Point

$80^0 - 82^0$ (Naphthalene), Benzoic and $121.5^0 - 122^0$, Urea $132.5^0 - 133^0$, Succinic acid $184.5^0 - 185^0$, Cinnamic acid $132.5^0 - 133^0$, Salicylic acid $157.5^0 - 158^0$, Acetanilide $113.5^0 - 114^0$, m- Dinitrobenze 90^0, p-Dichlorobenzene 52^0 Aspirin135^0.

iii. Determination of boiling points

Ethanol = 78^0, Cyclohexane 81.4^0, Toluene 110.6^0, Benzene 80^0.

iv. Mixed Meting point Determination

Urea- Cinnamic acid mixture of various compositions (1 : 4, 1 : 1, 4 : 1)

v Distillation (Demonstration)

Simple distillation of ethanol- water mixture using water condensor.

Distillation of nitrobenzene and aniline using air condenser.

vi. Crystallization

Phthalic acid from hot water (using fluted filter paper and stemless funnel).

Acetanilide from boiling water

Naphthalule from ethanol

Benzoic acid from water.

Vii. Decolorisation and crystallisation using charcoal

Decolorisation of brown sugar with animal charocal using gravity filteration

Crystallization and decolorisation of impure naphthalene (100g of naphthalene mixed with 0.3g of congo red using 1g of decolorising carbon) from ethanol.

Viii. Sublimation

Camphor, Naphthalene, Pthalic acid and Succinic acid

ix. Qualitative Analysis

Detection of elements (N, S and halogens) and functional groups (Phenolic, Carboxylic, CarbonyI, Esters, Carbohydrates, Amines, Amides, Nitro and Anilide) in simple organic compounds.

3. Physical Chemistry

(i) Chemical Kinetics

To determine the specific rate of hydrolysis of methyl/ ethyl acetate catalysed by hydrogen ions at room temperature.

To study the effect of acid strength on the hydrolysis of an ester

To compare the strengths of HCl & H_2SO_4 by studying the kinetics of hydrolysis of ethyl acetate

To study kinetically the reaction between H_2O_2 & Iodide

(ii) Distribution Law

To study distribution of iodide between water & CCl_4

To study distribution of benzoic acid between benzene & water.

(iii) Colloids

To prepare arsenious sulphide sol & compare the precipitating power of mono-, bi, & tri valent anions.

(iv) Viscosity & Surface Tension

To determine the of % composition of a given mixture (Non interacting system) by viscosity mehtod.

To determine the viscosity of amyI alcohol in water at differnt concentrations & calculate the excess viscosity of these solutions.

To determine the % composition of a given binary mixture by surface tension method (acetone & ethyl methyl ketone).

BOOK :

1. ogeps qualitive analysis, revised svehla, orient longman
2. Standered methods of chemical analysis, W.W. scott, The Technical Press
3. Experimental Organic Chemistry, Vol. I & II, P.R. Singh, D.S. Gupta & K.S. bajpai, Tata Mc Graw Hill
4. Manual ingorganic chemistry, R.K. Bansal Wiley Eastern
5. vogel's text book of practical organic chemistry, B.S. Furnis A.J. Hannaford, V. Rogers, P.W.G. Smith & A.r. Tatchel, ELBS
6. Experiments in general chemistry, CNR Rao & U.C. Agarwal
7. Experiments in physical chemistry, R. C. Das & B. Behara Tata Mc Graw Hill
8. Advanced practical physical chemistry,. J.B. Yadav, Goel publishing house

PRACTICAL EXAMINATION **05 Hrs.**

Three experiments are to be performed **M.M. 50**

1. Inorganic Mixture Analysis, four radicals two basic & two acid (insoluble, Interfering & combination of acid radicals) any one to be given. 12 Marks.
2. Detection of functional group in the given organic compound and determine its MPt/BPt. 8 marks

OR Crystallization of any one compound as given in the prospectus along with the determination of mixed MPt.

OR Decolorisation of brown sugar along with sublimation of camphor/ Naphthlene.

3. Any one physical experiment that can be completed in two hours including calculations. 14 marks
4. Viva 10 marks
5. Sessionals 06 marks

In case of Ex-Students two marks will be added to each of the experiments.

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ZOOLOGY

PAPER - I (paper code - 0813)

(CELL BIOLOGY & INVERTEBRATES) **M.M. 50**

UNIT-1 The Cell (Prokaryotic & Eukaryotic)
Methods in cell biology (Microscopy light & Electron)
Organisation of cell extranuclear and nuclear (Plasma membrane, mitochondria, chromosomes, ER. Golgi bodies, Ribosomes)

UNIT-2 Cell divisions (Mitosis & Meiosis)
An elementary idea of cell transformation & Cancer Immunity (elementary idea)

UNIT-3 General Characteristics & Classification of invertabrates upto orders with examples
Protozoa - type study *Paramoecium*, protozoa & disease
Porifera - type sutdy *Sycon*
Coelenterata - type sutdy *Obelia*

UNIT-4 Helminths - type sutdy *fasciola*
Annelida - type sutdy *Pheretima*
Arthropoda - type sutdy *Palaemon*

UNIT-5 Mollusca - type sutdy *Asterias* (starfish)
Protochordata - type sutdy *Balanoglossus*

PAPER - II (paper code - 0814) M.M. 50

(VERTEBRATES & EMBRYOLOGY)

UNIT-1 Origin and classification of Chordates.
Protochordata - type sutdy Amphioxus.
A comparative account of Petromyzon & Myxine

UNIT-2 Fishes - Skin and scales
Migration in fishes
Parental care
Amphibia - Parental care
Neoteny
Reptilia - Poisonous & non poisonous shakes, Poison apparatus, snake venom.

UNIT-3 Aves - Flight adaptation in birds
Discuss - Birds are glorified reptiles
Mammals- comparative account of prototheria, metatheria & Eutheria and Affinities.

UNIT-4 Gametogenesis, Fertilization & Parhenogenesis.
Development of frog upto formation of three germ layers

UNIT-5 Development of Chick upto formation of three germ layer, Extra embryonic membranes.
Placenta in mammals.
Embryonic induction organisers & differentiation.

PARACTICAL M.M. 50

The practical work will, in geneal be based on the syllabus prescribed in theory and the candidates will be required to show a knowledge of the following.

1. Dissection of earth worm.
2. Dissection of Cockroach, Palaemon, Pila.

3. Minor Dissection- Appendages of Prawn & hastate plate, Mouth-parts of Insects, Radula of Pila.
4. Mounting-Setae, Spermatheca, Septal Nephridia, Nerve ring & ovary of earth worm/ Parapodia of Nereis Salivary gland of Cockroach, ctenidium of pila, Malpighian tubules.
5. Cytological preparation- Onion root-tip "Squash Preparation" for mitosis/Grasshopper testis squash for meiosis.
6. Osteology-Frog & Rabbit
7. Museum Specimen invertebrate & Vertebrate, frog embryology.
8. Slides-Chick embryology, Cytology, Mammal Histology, Bird feather & invertebrate Slides.

Scheme of Practical Exam. **Time 3 Hrs, M.M. 50**

1.	Major Dissection	8 Marks
2.	Minor Dissection	6 Marks
3.	Mounting	5 Marks
4.	Cytological Preparation	5 Marks
5.	Spots- 8 (Slides-4, Specimens-2, & Bones-2)	16 Marks
6.	Sessional	10 Marks

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BOTANY

PAPER - I

(GENERAL DIVERSITY OF MICROBES AND CRYPTOGAMS) M.M. 50

(paper code - 0811)

UNIT-1 Viruses and Bacteria: General account of viruses and mycoplasma; bacteria structure; nutrition, reproduction and economic importance; general account of cyanobacteria. 12 Hrs.

UNIT-2 Algae: General characters, classification and economic importance; important features and life history of Chlorophyceae-Volvox, Oedogonim, Coleochaete; Xanthophyceae-Vaucheria; Phaeophyceae- Ectocarpus, Sargassum; Rhodophyceae- Polysiphonia. 12 Hrs.

UNIT-3 Fungi: General characters, classification and economic importance; important features and life history of Mastigomycotina- Pythium, Phytophthora; Zygomycotina- Mucor, Ascomycotina-Saccharomyces, Eurotium, Chaetomium, Peziza; Basidiomycotina-Puccinia, Agaricus; Deuteromycotina-Cercospora, Colletotrichum; general account of Lichens. 12 Hrs.

UNIT-4 Bryophyta: Amphibians of plant kingdom displaying alternation of generations; structure, reproduction and classificaiton of Hepaticopsida (e.g. Riccia Marchantia); Anthocerotopsida (e.g. Anthoceros), Bryopsida (e.g. Funaria) 12 Hrs.

UNIT-5 Pteridophyta: The first vascular plants; important characteristics of Psilopsida, Lycopsida, Sphenopsida and Pteropsida; structure, Reproduction in Rhynia, Lycopodium Selaginella, Equisetum, Pteris and Marsilea.

BOTANY

PAPER - II

CELL BIOLOGY AND GENETICS

(paper code - 0812)

UNIT-1 The cell envelope: Plasma membrane; bilayer lipid structure; functions; the cell wall.

Ultra structure and function of nucleus: nuclear membrane; nucleolus and other organelles: Golgi bodies, ER, peroxisomes, Vacuoles. 12 Hrs.

UNIT-2 Chromosome organization: Morphology; centromere and telomere; chromosome alterations; deletions, duplications, translocations, inversions; variations in chromosome number aneuploidy, polyploidy; sex chromosomes.

Cell division : Mitosis; meiosis 12 Hrs.

UNIT-3 DNA the genetic material: DNA structure; replication; DNA- protein interaction; the nucleosome model; genetic code; satellite and repetitive DNA.

Extranuclear genome: Presence and function of mitochondrial and plastid DNA; plasmids. 12 Hrs.

UNIT-4 Gene expression: Structure of gene; transfer of genetic information; transcription, translation, protein synthesis; tRNA; ribosomes; regulation of gene expression in prokaryotes and eukaryotes; proteins, 1D, 2D and 3D structure. 12 Hrs.

UNIT-5 Genetic Variations: Mutations, spontaneous and induced; transposable genetic elements; DNA damage and repair:

Genetic inheritance: Mendelism; laws of seggregation nd independent assortment: linkage analysis; allelic and non-allelic interactions. 12 Hrs.

BOTANY PRACTICAL

Time : 3 Hrs **Marks-50**

1.	Algae/Fungi	10
2.	Bryophyta/ Pteridophyta	10
3.	Disease Symptoms/Gram's Staining	05
4.	Cytology/Genetics	05
5.	Spots (1-5)	10
6.	Viva Voce	05
7.	Sessionals	05
		50 marks

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MATHEMATICS

PAPER - I

ALGEBRA AND TRIGONOMETRY

(paper code - 0798)

UNIT-1 Symmetric, Skew symmetric, Hermitian and skew hermitian, matrices. Elementary operations on matrices, Inverse of a matrix. Linear independence of row and column matrices, Row rank, Column rank and rank of a matrix. Equivalence of column and row ranks. Eigen values, Eigen vectors and the characterstic equations of a matrix. Cayley Hamilton theorem and its use in finding inverse of a matrix.

UNIT-2 Application of Matrices to a system of linear (both homogeneous and nonhomogeneous) equations. Theorems consistancy of a system of linear equations. Relation between the roots and coefficients of general polynomial equations in one variable. Transformation of equations. Descarte's rule of signs. Solutions of cubic equations (Cardons Method), Biquadratic equation.

UNIT-3 Mappings, Equivalence relations and partitions. Congruence modulo n. Definition of a group with examples and simple properties. Cyclic groups generators, Coset decomposition, Lagranges theorem and its consequances. Formate and Euler's theorems. Normal subgroups. Quotient group, Permutation groups, Even and odd permutations the alternating groups. Cayley's theorem An.

UNIT-4 Homomorphism and Isomorphism the fundamental theorems of homomorphism. Introduction, properties and examples of Rings, Subsings, Integral domain and fields Characterstic of a ring and field.

TRIGONOMETRY :

UNIT-5 De Moivres theorem and its applications. Direct and inverse Circular and Hyperbolic functions. Logarathim of a complex quantity. Expansion of Trignometrical functions. Gregory's series. Summation of series.

TEXT BOOK :

1. I.N. Herstein, Topies in Algebra Wiley Eastern Ltd., New Delhi, 1975
2. K.B. Datta, Matrix and Linear Algebra, Prentice Hall of India Pvt. Ltd.New Delhi, 2000.
3. Chandrika Prasad, Text-Book on Algebra and Theory of equations, Pothishala Private Ltd., Allahabad.
4. S.L. Loney, Plane Trigonometry Part II, Macmillan and Company, London.

REFERENCES :

1. I.N. Herstein, Topics in Algebra, Wiley Eastern Ltd., New Delhi, 1975.
2. K.B. Datta, Matrix an linear algebra, Prentics Hall of India Pvt. Ltd. New Delhi, 2000.
3. P.B. Bhattacharya, S.K. Jain and S .R. Nagpaul, First Course in linear Algebra, Wiley Eastern, New Delhi, 1983.
4. P.B. Bhattacharya, S.K.Jain and S.R. Nagpaul, Basic Abstract Algebra (2 edition), Cambridge University Press, Indian Edition, 1997.
5. S.K. Jain, A. Gunawardena and P.B. Bhattacharya, Basic linear Algebra with MATLAB, Key College Publishing (Springer-Verlag), 2001.
6. H.S. Hall and S.R. Knight, Higher Algebra, H.M. Publications, 1994.
7. Chandrika Prasad, Text-Book on Algebra and Theory of Equations, Pothishala Private Ltd., Allahabad.
8. S.L. Loney, Plane Trigonometry Part II, Macmillan and Company, London.
9. R.S. Verma and K.S. Shukla, Text Book on Trigonometry, Pothishala Pvt. Ltd., Allahabad.

PAPER - II

CALCULUS

(paper code - 0799)

DIFFERENTIAL CALCULUS :

UNIT-1 $\varepsilon - \delta$ definition of the limit of a function. Basic properties of limits. Continuous functions and classification of discontinuties. Differentiability. Successive differentiation. Leibnritz theorem. Maclaurin and Taylor series expansions.

UNIT-2 Asymptotes curvature. Tests for concavity and convexity. Points of inflexion. Multiple points. Tracing of curves in Cartesian and polar coordinates.

INTEGRAL CALCULUS:

UNIT-3 Integration of irrational algebraic functions and transcendental functions. Reduction formulae. Definite integrals. Quadrature. Rectification. Volumes and surfaces of solids of revolution.

ORDINARY DIFFERENTIAL EQUATIONS :

UNIT-4 Degree an order of a differential equation. Equations of first order and first degree. Equations in which the variables are separable. Homogeneous equations. Linear equations and equations reducible to the linear form. Exact differential equations. First order higher degree equations solvable for x, y, p. Clairaut's form and singular solutions. Geometrical meaning of a differential equation. Orthogonal trajectories. Linear differential equations with constant coefficients. Homogeneous linear ordinary differential equations.

UNIT-5 Linear differential equations of second order. Transformation of the equation by changing the dependent variable/the independent variable. Method of variation of parameters. Ordinary simultaneous differential equations.

TEXT BOOK :

1. Gorakh Prasad, Differential Calculaus, Pothishala Private Ltd. Allahabad.
2. Gorakh Prasad, Integral Calculus, Pothishala Private Ltd. Allahabad.
3. D.A. Murray Introductory Course in Differential Equations, Orient Longman (India), 1976.

REFERENCES :

1. Gabriel Klambauer, Mathematical Analysis, Marcel Dekkar, Inc. New York, 1975.
2. Murray R. Spiegel, Theory and Problems of Advanced Calculus, Schaum's outline series, Schaum Publishing Co. New York.
3. N. Piskunov, Differential and Integral Calculus, Peace Publishers, Moscow.
4. P.K. Jain and S.K. Kaushik, An Introduction to Real Analysis, S. Chand & Co. New Delhi, 2000.
5. Gorakh Prasad, Differential Calculus, Pothishala private ltd. Allahabad.
6. Gorakh Prasad Integral Calculus, Pothishala Private ltd. Allahabad.
7. D.A. Murray, Introductory Course in Differential Equations, Orient Longman (India), 1967.
8. G.F. Simmons, Differential Equations, Tata Mc Graw Hill, 1972.
9. E.A. Codington, An Introduction to Ordinary Differential Equaitons, Prentics Hall of India, 1961.
10. H.T.H. Piaggio, Elementary Treatise on Differential Eidations and their Applications, C.B.S. Publishe & Distributors, Dehli, 1985.

11. W.E. Boyce and P.O. Diprima, Elementary Differential Equations and Boundary Value Problems, John Wiley, 1986.
12. Erwin Kreyszig, Advanced Engineering Mathematics, John Wiley and Sons, 1999.

PAPER - III

VECTOR ANALYSIS AND GEOMETRY M.M. 50

(paper code - 0800)

VECTOR ANALYSIS :

UNIT-1 Scalar and vector product of three vectors. Product of four vectors. Reciprocal Vectors. Vector differentition. Gradient, divergence and curl.

UNIT-2 Vector integration. Theorems of Gauss, Green, Stokes and problems based on these.

UNIT-3 General equation of second degree. Tracing of conies. System of conies. Confocal conies. Polar equation of a conic.

UNIT-4 Plane the Straight line and the plane. Sphere cone. Cylinder.

UNIT-5 Central Conicoids. Paraboloids. Plane sections of conicoids. Generaing lines. Confocal Conicoids. Reduction of second degree equations.

TEXT BOOKS :

1. N. Saran and S.N. Nigam, Introduction to vector Analysis, Pothishala Pvt. Ltd. Allahabad.
2. Gorakh Prasad and H.C. Gupta, Text Book on Coordinate Geometry, Pothishala Pvt. Ltd., Allahabad.
3. R.J.T. Bill, Elementary Treatise on Coordinate Geometry of three dimensions, Machmillan India Ltd. 1994.

REFERENCES :

1. Murray R. Spiegel, Theory and Problems of Advanced Calculus, Schaum Publishing Company, New York.
2. Murray R. Spiegel, Vector Analysis, Schaum Publishing Company, New York.
3. N. Saran And S.N. Nigam Introduction to Vector Analysis, Pothishala Pvt. Ltd., Allahabad.
4. Erwin Kreysizig, Advanced Engineering Mathematics, John Wiley & Sons, 1999.
5. Shanti Narayan, A Text Book of Vector Calculus, S. Chand & Co., New Delhi.
6. S.L. Loney, The Elements of Coordinate Geometry, Macmillan and Company, london.
7. Gorakh Prasad and H.C. Gupta, Text Book on Coordinate Geometry, Pothishala Pvt. Ltd., Allahabad.
8. R.J.T. Bill, Elementary Treatise on Coordinate Geometry of three Dimensions, Macmillan India Ltd., 1994.
9. P.K. Jain and Khalil Ahmad, A Text Book of Analytical Geometry of two Dimensions, Wley Eastern Ltd., 1994.
10. P.K. Jain and Khalil Ahmad, A Text Book of Analytical Geometry of three Dimensions, Wiley Eastern ltd., 1999.
11. N. Saran and R.S. Gupta, Analytical Geometry of three Dimensions, Pothishala Pvt. Ltd. Allahabad.

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MICROBIOLOGY

PAPER - I **M.M. 50**

GENERAL MICROBIOLOGY

(paper code - 0819)

UNIT-1 Unity of microbial world, scope of microbiology, Microbiology and human health, beneficial and harmful microbes. development of microbiology (contributions and pioneers)

UNIT-2 Diversity of microbial world: principle of classification, classification of viruses, Bacteria (including Cyanobacteria) Algae and Fungi (including yeast) and protozoa.

UNIT-3 Methods of studying microorganism: Origin of microbes, microscopy, pure culture techniques, Sterlization, Aseptic techniques, isolation of pure culture, conditions and media for growth of microorganisms in the laboratory.

UNIT-4 General organization of microbes; Structural functional organization and economic importance of algae (*Nostoc, anabaena, Ocillitoria),* fungi (*Rhizopus, Penicillium, Aspergillus*), yeast and lichens.

UNIT-5 Structure, Functional organization and economic importance of bacteria (Gram +ve and Gram -ve), viruses (Plant and Animal) and protozoa (Ciliates, Flagellates and Sporozoans).

TEXT BOOKS :

1. General Microbiology by Brock.
2. Microbiology by Black.
3. General Microbiology by Pelzar et al.
4. Introduction on Microbial Techniques by Gunasekaran.

PAPER - II

BIOCHEMISTRY AND IMMUNOLOGY M.M. 50

(paper code - 0820)

UNIT-1 Structure and properties of mono and disaccharides, amino acids and peptides, bases; purines and pyrimidens, sugars; ribose, deoxyribose and nucleoside and nucleotide; general account of lipids.

UNIT-2 concept of macromolecules; Structural and functional organization of polysaccharides (starch, glycogen, cellulose, mucopolysaccharides), proteins and nucleic acids (DNA, RNA).

UNIT-3 Enzymes; historical account, classification, Co-enzymes and their role. Enzyme action, Enzyme kinetic. Km, Vm and Enzyme inhibition. Allosteric enzyme and isoenzyme. Extracellualar enzymes and their role.

UNIT-4 Metabolism; General concept of metabolims (anabolism, catabolism and amphibolism). Glycolysis TCA Cycle and HMP Shunt. Anaerobic catabolims of glucose; alpha, beta and gamma oxidation of fatty acids.

UNIT-5 Concept of immunity, Innate and aquired immunity. Brief account of cells and organs of immune system. Antigen and Antigenecity. Antibody structure and function. Antigen-Antibody reaction.

Text Books :

1. General Biochemistry by A.C. Deb.
2. Biochemistry by Lehninger (Kalyani publication)
3. Biochemistry by U. Satyanarayan.
4. General Immunology by Fatima.
5. Microbiology by Anantanarayan and Panikar.
6. Immunology by C.V. Rao.

PRACTICAL **M.M. 50**

Preparation fo solid/liquid culture media
Sterilization techniques
Isolation of single colonies on solid media.
Enumeration of Bacterial numbers by serial dilution and plating.
Simple and differential staining.
Measurement of microorganism (micrometry) and camera lucida drawing of isolated organism.
Determination of antibiotic resistances / sensitivity of bacteria.
General and specific qualitative test for carbohydrates
General and specific qualitative test for amino acids
General and specific qualitative test for lipids
Estimation of protein
Estimation of blood glucose
Assay of the activity of amylases
Assay of the activity of Phosphatase
Identification and Enumeration of White Blood Cells
Defferential leukocyte count
Structure and histology of lymphoid organs
Antigen- anitbody reaction
Agglutination reaction

Scheme of Practical Examination

Time - 4 hours **M.M. 50**

1.	Exercise on Microbiological methods	10
2.	Exercise on Biochemical tests	10
3.	Exercise on Immunological techniques	05
4.	Spotting (1-5)	10
5.	Viva-Voce	05
6.	Sessional	10
	Total	**50**

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GEOLOGY

PAPER - I

INTRODUCTION TO GEOLOGY M.M. 50

(paper code - 0801)

UNIT-1
1. Geology and its perspectives. Earth in the solar system: origin, size, shape, mass, and density.
2. Internal structure of earth, Chemical composition of crust, mantle and core.
3. Formation of atmosphere, hydrosphere and biosphere.
4. Age of the earth. Redioactivity, Production of magnitic field.
5. Origin of solar system and universe Universe with indian perspective.

UNIT-2
1. Elementary ideas of continental drift and Plate Tectonics.
2. Origin of oceans, continents and mountains.
3. Earthquake and earthquake belts, measure of earthquake. Volcanoes- types and distribution.
4. Rock-weathering. Erosion adn transportation by rivers.
5. Erosion & transportation by winds & glaciers.

UNIT-3
1. Wave erosion and beach processes.
2. Bedding identification and data measurement Effects of topography on outcrop.
3. Unconformity, Onlap, offlap outtlier, inlier.
4. Forms of igneous rocks.
5. Simple deformational structures; folds, Faults and joints.

UNIT-4
1. Elementary idea about crystal structure, edges, solid angles, zone.
2. Crystallographic axes and axial angles. Axial parameters and indices.
3. Crystal symmetry and Plane - Axix & Centre of symmetry.
4. Classification of crystal : Symmetry elements of normal class of cubic, tetragonal and hexgenal system.
5. Symmetry elements of normal class of Orthorhombic, Monoclinic and Triclinic systems.

UNIT-5
1. Definition and classification of minerals Physical properties of minerals.
2. Optical properties of minerals : Twinkling, Refractive index, birefringence, pleochroism, interference colurs.
3. Physical & optical properties of Quartz and Feldspar family.
4. Physical & optical properties of Pyroxene & Amphibole family.
5. Physical & optical properties of Mica & Garnet.

PAPER - II

INTRODUCTION TO GEOLOGY M.M. 50

(paper code - 0802)

UNIT-1
1. Magma: definition, composition and origin.
2. Bowen's reaction series. Magmatic differentiation and assimilation.
3. Texture structure and classification of igneous rocks.
4. Definition and agents of metamorphism. Texture, structure and classification of metamorphic rocks.
5. Metamorphic facies, facies series and isograde s. Relationship between metamorphism and deformation.

UNIT-2
1. Origin, transportation and deposition of sediments. Consolidation and diagenesis.

2. Sedimentary fabric and texture Classification of sedimentary rocks-Terrigenous and chemical sedimentary rocks.
3. Definition & Scope of paleobiology, processes of fossilization, preservation potential of organisms.
4. Elementary idea of origin of life, evolution of fossil record.
5. Classification of organisms.

UNIT-3 1. Morphology, environmental factors & geological distribution of Mollusca.
2. Morphology, environmental factors and geological distribution of Brachiopoda
3. Morphology, environmental factors and geological distribution of echinodermata, and Arthopoda.
4. Gondwana Plant fossils & their significance.
5. Morphology of corals

UNIT-4 1. Principles of statography. Gological time scale.
2. Lithostratigraphic, Chronostratigraphic and biostratigraphic units. Stratigraphic correlation.
3. Physical and structural subdivisions of Indian subcontinent and their Characteristics.
4. Classfication & distribution of Dharwars.
5. Classification & distribution of Aravallis, sausar. Group and Cuddapah.

UNIT-5 1. Brief account of geology and distribution of Vindhyan and Chhattisgarh.
2. Classification and geographic distribution of Gondwana in India.
3. Geology and age of Deccan traps. Inter-trappians & Infra trappean beds.
4. Classification & distriburion of Siwalik.
5. Evoluation of Himalayas.

PRACTICAL **M.M. 50**

LABORTORY WORK : M.M. 40

1. Study and drawing of block diagrams of important geomorphological models. Reading topographical maps and interpretation of landforms and drainage from topographical maps. - 5 Marks
2. Exercises on structural geology problems: completion of outcrops, Drawing and interpretation of cross-sections through elementary representative geological structures. - 6 Marks
3. Study of elements of symmetry of at least one representative crystal of normal classes of each crystal system. Study of physical properties of important minerals in hand specimens. - 7 Marks
4. Study of optical characters of important rock forming minerals using polarizing microscope. - 4 Marks
5. Study of morphological characters of phyla included in theory syllabus. - 5 Marks
6. Preparation and study of stratigraphic maps - 3 Marks
7. Sessional - 5 Marks
8. Viva-Voce - 5 Marks

GEOLOGICAL FIELD WORK : M.M. 10

Students will be required to carry out field work for 7 days in a suitable geological area to study the following aspects and submit a report there on.

1. Use of clinometer/ brunton in determination of attitude of planar and linear structures.
2. Study of mode of occurrence of rocks and minerals in the field.

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ANTHROPOLOGY

PAPER - I

FOUNDATION OF ANTHROPOLOGY M.M. 50

(paper code - 0815)

UNIT-1 Meaning and scope of Anthropology, history of Anthropology, Branches of Anthropology.

(a) Sociocultural Anthropology;

(b) Physical-Biological Anthropology;

(c) Archaeological Anthropology;

(d) Linguistic Anthropology.

UNIT-2 Relationship with other disciplines: Life sciences, Earth sciences, Medical Sciences, Social Sciences, Humanities, Environment Sciences.

UNIT-3 Foundation in Biological Anthropology.

(a) Human Evolution

(b) Human Variation

(c) Human Gcnetics

(d) Human Growth and Development.

UNIT-4 Fundamentals in Social-Cultural Anthropology.

(a) Culture, Society, Community,Group, Institution

(b) Human Institution : Family, Marriage, Kinship Religion.

(c) Development and change.

(d) Research Methods : Tools and Techniques.

UNIT-5 Fundamentals in Archaeological Anthropology.

(a) Tool typology & Technology.

(b) Cultural evolution: Broad outlines of cultures.

(c) Chronology.

PAPER - II

INTRODUCTION TO PHYSICAL ANTHROPOLOGY M.M. 50

(paper code - 0816)

UNIT-1 Meaning & scope & History of Physical Anthropology & its applied aspects. Theories of organic evolution, synthetic theory of evolution Lamaslism & Darwynism.

UNIT-2 Position of Man in animal kingdom : comparative anatomy of Man and Apes.

UNIT-3 Fossil evidence of human evolution, origin of tool making and their evolution. Ramapithecus, Austratopithecus, Pithecanthropus, Sinauthropus, Neahder that Cromagnon, Grimaldiman, Chanulade.

UNIT-4 Concept of race, Genetic basis of Race, UNESCO Statement on Race- Ethnic Group population, Racial classification of human Populations.

UNIT-5 Human Genetics, Mendelian principles, Genctic markers, DNA.

PAPER - III

ANTHROPOLOGY PRACTICAL M.M. 50

I Idenification of bones of Human Skeleton Sketching and labeling of various norms of skull Overview of Pectoral & Pelvic girdles & Femur & Human bone.

II. Craniometry :

(i) Maximum Cranial length

(ii) Maximum Cranial breadth

(iii) Minimum frontal Breadth

. (iv) Bizygomiatic Breadth

(v) Nasal Height

(vi) Nasal Breadth

(vii) Basiba Bregmatic Height

(viii) Bimaxeelary Breadth

(ix) Biometrical Breadth

(x) Length of occipital foraman.

III. Solliatometry :

Osteometry

Femur

(1) Maximum lengh

(2)

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STATISTICS

PAPER - I

PROBABILITY THEORY (paper code - 0803)

Important concepts in probability: defination of Probability- classical and relative frequency approach to probability, Richard Von Mises, Cramer and Kolmogorov's approaches to probability, merits and demerits of these approaches any general ideas to be given.

Random Experiment: Trial, sample point and sample space, definition of an event,operation of events, mutually exclusive and exhaustive events. Discreate sample space, properties of probability based on axiomatic approach, conditional probability, independece of events, Bayes' theorem and its applications.

Random Variables: Definition of discrete random variables, probability mass function, idea of continuous random variable, probability density function, illustrations of random variables and its properties, expectation of a random variable and its properties -moments, measures of location, dispersion skewness and kurtosis-probability generating function (if it exists), their properties and uses.

Standard univariate discrete distributions and their properties: Discrete Uniform, Binomial, Poisson, Hypergeometric, and Negative Binoinial distributions.

Continuous univariate distributions- uniform, normal, Cauchy, Laplace, Exponential, Chi-Square, Gamma and Beata distributions. Bivariate normal distribution (including marginal and conditional distributions).

Chebyshev's inequality and applications, statements and applications of weak law of large numbers and central limit theorems.

REFERENCES :

Bhat B.R., Srivenkatramana T and Rao Madhava K.S. (1997): Statistics: A Beachner's Text, Vol. II new Age International (P) Ltd.

Edward P.J. Ford J.S. and Lin (1974): Porbability for statistical decision- Making, Prentice Hall.

Goon A.M. Gupta M.K., Das Gupta.B. (1999): Fundamentals of statistics, Vol World Press Calcutta.

Mood A.M. Grabill F.A. and Boes D.C. (1974): Introduction to the theory of statistics, Mc Graw Hill.

ADDITIONAL REFERENCES :

Cooke, Cramer and Clarke (): Basic Statistical computing, Champan and Hall.

Devid S. (1996): Elementary Probability, Oxford Press.

Hoel P.G. (1971): Introduction to Mathematical Statistics, Asia Publishing House

Meyer P.L. (1970): Introductory Probability and Statistical applications. Addision Wesley

PAPER - II

DESCIRIPTIVE STATISTICS (paper code - 0804)

Type of Datta: Concepts of a statistical population and sample from a population; qualitative and quantitative data; nominal and ordinal data; cross sectional and time series data; discrete and continuou data; frequency and non- frequency data. Different type of scales-nominal, ordinal, ratio and interval.

Collection and security of data: Primary data- designing a questionnaire and a schedule; checking their consistency. Secondary data-its major sources including some government publications. Complete enumeration, controlled experiments, observational studies and sample survey. Scrutiny of data for internal consisteny and detection of errors of recording. ideas of cross- validation.

Presentation of Data: Construction of tables with one or more factors of classification. Diagnommatic and graphical representation of grouped data. Frequency distributions, cumutative frequency distributions and their graphical representation, histogram, frequency polygon and ogives. Stem and leaf chart Box plot.

Analysis of Quantitative Data: Univariate data-Concepts of central tendency or location, dispersion and relative oispersion, skewness and kurtosis, and their., measures including those based on quantiles and moments. Sheppard's corrections for. moments for grouped data (without derivation).

Bivariate Data: Scatter diagram. Product moment correlation coefficient and its properties. Coefficient of determination. Correlation ratio. Concepts of error in. regression.Principle of least squares. Fitting of linear regression and related results. Fitting of curves reducible to polynomials by transformation. Rank correlation- Spearman's and Kendall's meausres.

Multivariable data: Multiple regression, multiple correlation and partial correlation in three variables. Their measures and related results.

Analysis of Categorical Data: Consistency of categorice data. Independence and association of attributes, Various measures of association for two way and three way classifed data Odds ratio.

REFERENCES :

Bhat B.R. Srivenkairamana T and Rao Madhava K.S. (1996): Statistics: A Beginner's Text, Vol. I, New Age International (P) Ltd.

Croxion F.E. Covden D.J. and kelin S (1973): Applied General Statistics, Prentice Hall of Inida.

Goon A.M. Gupta M.K.,Das Gupta. B. (1991): Fundamentals of Statistics, Vol. I, World Press, Calcutta.

ADDITIONAL REFERENCES :

Anderson T.W. and Sclove S.L (19718) An Introduction to the Statistical Analysis of. Houghton Miffin\Co.

Cooke, Cramer and Clarke (): Basic Statistical Computing, Chapman and Hall.

Mood A.M, Graybill F.A. and Boes D.C. (1974): Introduction to the Theory of Sttistics, Mc Graw Hill.

Snedecor G.W. and Cochian, W.G. (1976): Statistical Mehtods. Lowa State University Press.

Spiegel, M.R. (1967): Theory & Problems of Statistics, Schaum's Publishing Series.

PAPER - II

PRACTICAL

1. Presentation of data by Frequency tables, diagrams and graphs.
2. Calculation of Measures of central tendecy, dispersion, skewness and Kurtosis:
3. Product Moment Correlation and Correlation ratio.
4. Fitting of Curves by the least square method.
5. Regression cf two variables.
6. Spearman's Rank correlation and Kendall's tau.
7. lvlultiple regression of three variables.
8. Multiple correlation and Partial correlation.
9. Evaluation of Probabilites using Addition and Multiplication theorems, conditional probabilities, and Baye's theorems.
10. Exercises on mathematical expectations and finding measures of central tendecy dispersion, skewness and Kurtosis of univariate probability distributions.
11. Fitting of standard univariate and continuous distributions.

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DEFENCE - STUDIES

PAPER - I

INDIAN MILITATY HISRORY M.M. 50

(paper code - 0817)

AIM : The main idea behind this paper is to give a conceptual background about the events and factors which infleenced course of history and helped in developing the art of war in India.

Note : Questions will be set from each unit, There will be only internal choice.

UNIT-1
1. The definition and scope of Defence Studies and its relationship with other subjects.
2. Art of war of Epic and Puranic period.
3. Comparative study of lndo-Greek art of war with special reference to the Battle of Hydaspus 326 B.C.
4. Mauryan Military system and art of war.

UNIT-2
1. Kautalya's Philosophy of war.
2. Gupta's military system and art of war.
3. Military system of Harshavardhan.
4. Dicline of Chariots and Importance of Elephant and Cavalory.

UNIT-3
1. Mughal military system.
2. Rajput and Turk pattern of warfare with speci of reference to Battle of Somnath and Battle of Tarain up to 12th century A.D.
3. Causes of the fall pf Rajput Military system.
4. Army organization during Sultanate period.
5. Battle of Panipat 1526 A.D. and Battle of Haldighati 1576 A.D.

UNIT-4
1. Maratha Military system.
2. Warfare of Shivaji.
3. Battle of Assaye 1803 A.D.
4. Sikh Military system.
5. Battle of Sobraon 1846 A.D

UNIT-5
1. 1857 Liberation Movement.
2. Reorganizations of Indian Army under the, Crown.
3. Nationalization of, Indian Army after independence.
4. Military reforms of Lord Kitchner's.

READING LIST :

1.	Military System of Anciant India	:	B.K. Majumdar
2.	Generalship of Alexander the Great	:	J.F.C.Fuller
3.	Kautilya Arthashastra	:	K.P. Kanbley
4.	Military history of India	:	J.N. Sarkar

PAPER - II

DEFENCE MECHANISM OF THE MODERN STATE

(paper code - 0818)

IM : To enable students to appreciate the importance of higher political direction in the formulation of national defence policy and roles as political and military leadership in furthering national security.

Note : Question will be from each unit, there will be only internal choice.

UNIT-1
1. Evolution of National defence policy.
2. Inter dependence of Foreign, Defence and Economics policies.
3. Higher defence organization of U.S.A., U.K. and RUSSIA.
4. Higher defence organization of CHINA, PAKISTAN and NATO.

UNIT-2
1. Higher defence organization in India.
2. Powers of President and relation to Armed forces.
3. Parliament and the Armed forces.
4. Defence (Political affair) committee of the cabinet. Its composition, methods of working during war and peace.
5. National Defence Council and its Valiant.

UNIT-3
1. Organization of Ministry of Defence.
2. Organization of Army head quarter.
3. Organization of Naval head quarter.
4. Orgatiization of Air head quarter.

UNIT-4
1. Organization and role of Para-militaty forces - B.S.F., I.T.B.P., C.I.S.F. etc.
2. Organization and role of Intelligence Agencies - RAW, CBI, CID., IB etc.
3. Military Intelligence.
4. Role of N.C.C. in preparing youth for Defence services.

UNIT-5
1. Organization of Civil - defence.
2. Importance and role of civil defence during war and peace.
3. Air-Raid signal and precaution before and after bombardment.
3. Role of Indian armed forces in war and peace.

READING LIST :

1. Indian Army, A Sketch of its History & Organisation : E.H.E. Choen
2. Defence Organization in India : Venkateshwarm

PRACTICAL

M.M. : 50

There shall be practicall examination ot 3 hours duration and carying 50 marks. The distribution of marks shall be as follows -

1. Exercises based on Map reading : 20 Marks
2. Exercises based on models : 10 Marks

3. Sessional Work and Record : 10 marks

4. Viva-Voce : 10 marks,

PART - A

ELEMENTARY MAP READING

1. Maps- Difination, types, Marginal Information.
2. Conventional signs - Military and Geographical.
3. Direction and cardinal points.
4. Types of North, Angle of Convergence.
5. Study of Liquid compass, its parts, various tactical uses and preparation of Night navigation chart.
6. service Protractor and its uses.
7. To find North by Compass, Watch, Sun, Stars etc.
8. Bearing and interconversion of bearing.
9. Setting of Map.
10. Grid System.

PART - B

RECOGNITION & ELEMENTRY STUDY OF FOLLOWING MODELS

1. equivalent Rank and Badges of Indian Army, Navy and Air Force.
2. Famous Armoured vehicles used in war.
3. Weapons used in Infantry.
4. Various Ships of Indian Navy.
5. Famous Air-Crafts Used by Air-Force.

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INDUSTRIAL CHEMISTRY

PAPER - I

INDUSTRIAL ASPECTS, OF ORGANIC & INORGANIC CHEMISTRY

(paper code - 0821)

UNIT-1 1.1 Nomenclature Generic names, Rade names.

1.2 Raw Materials for Organic compounds :-
Petroleum, natural gas, Fractionation of Crude oil.

UNIT-2 2.1. Petrolutri :- Cracking, reforming Hydroforming isomerisaton.

2.2. Coal :- Types, Structure,' Properties, distillation of coal', chemicals derived there from.

UNIT-3 3.1. Renewable natural resources :- Cellulose, starch, properties, modification, important ind. Chemicals derived from them, Alcohol and alcohol based chemicals, Oxalic acid, Furfural.

3.2. Basic metallurgical operations':- PuIverisation, calcination, Roasting, refining.

UNIT-4 4.1 Physico chemical principles of extraction of,:- Iron, Copper, Lead, Silver, Sodium, Aluminium, Magnesium, Zinc, Chromium.

UNIT-5 Inorganic materials of Industrial Importance :- Their availablility, forms, structure arid modification. Alumina, Silica, Silicates, Clays, Mica, Carbon, Zeolites.

BOOKS :

1. Coal Conversion, E.J. Hoggman, The Energon Co., Lavamic Wyomnig, U.S.A.
2. Introduction of Petroleum Chemicals, H. Steiner, Pergamen Press.
3. From Agrocarbon to Petrochemicals, L.F. Hatch & S. Matarm, Gulf Publishing Co., Houston.
4. Colten Cellutose : Its Chemistry & Technology, Hall A.G.
5. Methods in Carbohydrate Chemistry, Vol. 3 - Cellulose, Whistler, R.L.
6. Chemistry of Cellulose, Heuser, E.
7. Chemistry & Industry of Starch, Kerr, R.W.
8. Modified Starches : Properties & Uses, Wurzburg, O.B.
9. Principles of Extractive Metallurgy, Herbashi, Vol. I & II.
10. Theory of Metellurgical Processes, Volsky, A. & Sergievskaya, F.
11. Text book of Metallurg, Baiky, A.R.
12. Clays, H. Reis, John Wileys & Sons.
13. Unit Processes of Extractive Metallurgy, Pehike, Elserier Publication.
14. Industrial Chemistry, Reigel, Reinhold Publication.

PAPER - II

INDUSTRIAL ASPECTS OF PHYSICAL CHEMISTRY

MATERIAL AND ENERGY BALANCE

(paper code - 0822)

UNIT-1 Surface. chemistry and Interfacial Phenomena Adsorption lsotherm, Sols, Gels, Emulions, Micoemulsions,.micelles, Aerosols, Effect of surfacttants, Hydrotropes.

UNIT-2 Calalysts :- Introduction, Types, Homog-eneous and Heterogeneous, Basic Principles, Mechanisms factors affecting the performance, Introduction to phase transfer catalysis

UNIT-3 3.1. Enzyme catalysed reactions - Rate model, Industrially important reactions.

3.2. Material Balance without chemical Reactions:- flow diagram formaterial balance,

simple material with or without recycle or by-pass for chemical engineering operations such as distillation, crystallisation, evaporation, extraction, etc.

UNIT-4 4.1. Dimensions and Units :- Basic. chemical calculations -Atomic weight, molecular, weight, equivalent weight, mole composition of (i) liquid mixt'ure & (ii) gaseous mixture.

4.2. Material balance involving chemical reaction :- concept of limiting reactant, conversion, yield liquid phase reaction, gas phase reactions with/without recycle or by-pass.

UNIT-5 Energy Balance :- Heat capacity of p-ure gases and gaseous mixtures at constant pres sures. Sensible heat changes. in liquids, Enthalpy changes.

BOOKS :

1. Aersol, Science & Technology, Shephered, H.R.
2. Catalysir :Heterogeneons & Homogeneous, Delmon, Elbevior Scienu Publication.
3. Catalysir, Science & Technology, Anderson, J.
4. Catalysir in Micelller & Macromolecular systems, Fendler & Fendler.
5. Phase Transfer Catalysis, Principle & Techniques, Strles, C.
6. Surgace Chemistry, J.J. Bikermann, Academic Press.
7. Physical Chemistry of Surfaces by A.W. Admson.
8. Storchiometry, B.I. Bhalt & S.M. Vora.
9. Chamical Process Principle - Part I, B.A. Hougen, K.M. Watson & R.A. Ragats, Asia Publication.

PAPER - III

UNIT OPERATIONS IN CHEMICAL INDUSTRY AND UTILITIES, FLUID FLOW AND HEAT TRASNPORT IN INDUSTRY

(paper code - 0823)

UNIT-1 1.1. Distillation - Introduction; Batch and continuous distillation, separation of azeotropes, plate columns & packed,columns.

1.2. Absorption - Introduction, Equipments- Packed columns, spray columns, bubble columns, palcked bubble columns, mechanically, agitated contractors.

UNIT-2 2.1 Evaporation - Introduction, Equipm ' ents - short tube (standard) evaporator, forced circulation evaporators, falling film evaporators, climbing film (Upward flow) evaporatiors, wiped (agitated) film evaporator.

2.2 Filtration - Introduction, filter media and filter aids, Equipments- Plate and frame,filter press, nutch filter, rotatory drum filter, spartkler filter, candle filter, bahgfifter, centrifuge.

2.3 Drying - Introdunction, free moisture, bound. moisture,drying curve, Equipments tray dryer, rotatory dryer, flash drater, fluid bed dryer, drum dryer, spray dryer.

UNIT-3 3.1 Utilities in chemical Industry

Fuel - Types of fuels -advantages and disadvantages, combustion of fuels, calortific value. specification for fuel oil.

Boilers - Types of.-boilers and their functioning.

Water - Specifications fof industrial use, various water treatments.

Steam - Generation and use.

Air - Specifications for Industrial use processing of air.

UNIT-4 Fluid Flow : Fans, blowers, compressors, vacuum pumps, ejector.
Pumps :- Reciprocating pumps,, Gear pumps,. centrifugal pumps.

UNIT-5 Heat Exchangers -: Shall and Tube type; finned tube heat exchangers, plate heat exchangers, refrigeration cycles.

BOOKS :

1. Introduction Chemical Engineering, W.L. Badger, J.J. Banchero, McGraw Hill.
2. Unit Operations in Chemical Engineering, W.L. McCabe & J.C. Smith, McGraw Hill.
3. Chemical Engineer's Hand Book, J.H. Perry, McGraw Hill.
4. Unit Operations - I & II, D.D. Kale, Pune Vidyarthi Griha Prakashan, Pune.
5. Unit Operations of Chemical Engineering, Vol. I, P. Chattopadhyay, Khanna Publishers, Delhi.

PRACTICAL

Duration of Examination : 04 Hrs.

Discription of marks			
	Experiment	:	30 marks
	Viva	:	05 marks
	Sessional	:	05 marks
	Project	:	40 marks
	Total	**:**	**80 marks**

EXPERIMENTS TO BE PERFORMED :

1. Simple laboratory tecniques crystallisation, Fraction Crystallisation, Distillation, Fractional distillation Boiling Point.Diagram.
2. Extraction Processes- Phase diagram, partition co-efficient.
3. Preparation of standard solutions- Primary and secondary standards, Determination of- H_2SO_4 and H_3PO_4 in a mixture.
4. Calibration of Thermometres.
5. Acquaintance with safety measures in a laboratory Hazards of Chemicals.
6. Depression and elevation in.b.p./m.p. of solids and liquids.
7. Chromatography-column, Paper, Thin layer.
8. Ore analysis dolomite, limestone, -calcite, Analysis of alloys such as cupro-nickel.
9. Determination of Physical Constants
   Refractive -index, surface tension, Effect of surfactants, on surface tension, viscosity- Fluids, Polymer solutions effect of additives on viscocity, optical rotation.
10. Study, experimenfs/demonstration experiments.

Note : Any two experiments have to be carried out by the students in the Examination. A Mini mum of 60% of the'experiments have to be conducted by the students.

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COMPUTER

PAPER - 1

COMPUTER HARDWARE

(paper code - 0805)

AIM : 'Introduction to computer hardware organization-& computer digital elecctronics:

Note : Question paper should be prepared, having unit-wise questions with internal choice.

OBJECTIVE OF COURSE :

1. To introduce,the computer PC's and clones to the students.
2. To introduce and explain terms, various' parts of computer, which will be helpful in understanding of computer hardware& use of computer.
3. To introduce an idea of digitai electronics and digital circuits for building up- the computer.

UNIT-1 GENERAL OVERVIEW OF COMPUTER HARDWARE :

(A) Introduction to computer : Computer Vs-Caldulator & typewriter ; Parts of a com puter ; The sysfgm unit/inside the systern unit,CPU; RAM-Keyboard Storage Media Floppy disc & hald disc; Monitor, Mouse;. Printer; Types of Computer, Evolution of personal computer form PC-XT,PC-AT (286) to pentium PC. Hardware & Software Types of Software System Software, Application Software, introduction to Program ming Languages, Procedural Oriented Language, Structured Programming, Object Oriented Programming, Languages [Ex. BASIC, COBOL, PASCAL, C, C++, Visual Basic, JAVA & C#]. Typs of operating System" introduction to DOS, UNIX, Windows, Simple DOS Commands and Fotures of UNIX & Working of'Windows.

(B) Computer System Operation Number system: Unary system, Decimal system, Binary system conversions, addition, subtraction by 9's and 10's complements and by 1's and 2's complements. Binary multiplication & division : Octal number system & hexadecimal number system and use.

UNIT-2 COMPUTER DIGITAL ELECTRONICS - PART A :

(A) Computer Communication Code -' Binary code, 8421 code; Ecess 3 code; parity code-, Grey code ASC I I & EBCDIC codes.

(B) Computer Logic System Logic Gates: Diode and BJT as switch; Response of BJT to square waves, New logic, Mathematical logic, Basic logic opereturs /gates, AND, OR,NOT operator./ gate, Positive and Negative logic, NOR & NAND gates, Boolean, equations by logic symbol

UNIT-3 COMPUTER DIGITAL ELECTRONIC - PART B :

(A) Integrated Circults for Computer Logic Family : Electrical characteristics, Propogation delay Noise immunity, Types of load RTL,DITL,TTL & COMO Bipolar & MOS integration circuits, TIL circuits.

(B) Basic bone of Digital Circuitary, Boolean Algebra : Laws of boolean Algebra, Demorgans theorm, Dual nature of Boolean Laws, Boolean expression And logic diagram. The Karnaugh map, Truth table to' K-map, Simplification of K-map.

(C) Computer Logic Circuits,:, Ex-OR, Ex,-NOR circuldary, Half andfull adder, Half

and full subtractor, Subtraction by.1's & 2's compliments.

UNIT-4 COMPUTER DIGITAL ELECTRONICS - PART C :

(A) More computer Logic carcuit cemcbinational logic circuits : Encode & Decoder, Four bit binary, decoder,BCD to 7 segmert, decoderer encoder, Multiplexers & demultiplexers, Date transmission, Logic function generator.

(B) Multivibrator Circuits: Monostable, Astable & Bistable circuits, Smitt Trigr, RS flip-flop, RS flip-flop using. NOR gate and NAND gate,'clocked-RS flip-flop, D flip-flop or latch, Edge triggered flip-flop, Preset and clear, propogaition delay-Set-up time, Hold time Master-Slave flip-flop.

UNIT-5 COMPUTER DIGITAL ELECTRONICS - PART D :

(A) Computer counters-and shift registers: Binary counter, Down counter, Paralle or Synchronous counter, eountel with feedback, code-7 precision time interval, Monitor horizontal to Vertical generator, shift registers in brief, application of shift registers.

(B) Computer Memories Types of, memory, RAM, ROM., PROM, EPROM, DRAM, SRAM.

TEXT BOOK :

1. Riapidex computer course - (Pustak Mahal) by vikas Gupta.
2. Digital'&Analogue Techniquesjz, - (Kitab Mahal) by Navneet, Gokhale & Kale

REFRENCE BOOKS :

1. Computer To-day - By Donald H. Sanders
2. IBM PC & Clones, - By B. Govindarajalu
3. Fundamental of Digital Computers - By Thomas Bharti
4. Introduction to Digital Electronics - By Moninander singh
5. Fundamantal of Computer - By V. Rajaraman.

PAPER - II

COMPUTER, SOFTWARE PART - A

(paper code - 0806)

AIM : Introduction to computer software organization & use for solving any problem by Computer.

NOTE : Question paper should be prepared-having unit-wise question with internal choice.

OBJECTIVE OF COURSE :

1. To introduce the basic knowledge of software require for running the computer.
2. To introduce the basic knowledge of programming in HLL, BASIC for solving-the problem.
3. To introduce the WORLD PRO CESSOR package for document processing and mail merge.

UNIT-1 Fundamentals for using the Computer:

(A) Driving the Computer

(1) Computer Operating System & other Software :

(i) Windows & UNIX system Software & their versions.

(ii) HLL Sottware : BASI C, COBOL,PASCAL,C, C++, Visual Basic, JAVA & C#.

(iii) Package Softwares - MS- Office & Foxpro.

(2) Introduction to DOS Ver 6.22 &-Windows-95, Windows-98 & Windows-2000.

(3) Windows concept, various features &advantages, Windows structure, Desktop, Taskbar, Start Menu, My Computer, Recycle bin.

(4) Accessories: Calculator, Notepad, Paint, WordPad, Character Map, Explorer : Creating Folders and other Explorer Facilities.

(5) Object Linking & embedding. Communication - Dialup Networking, Phone dialer.

(B) General idea of Problem Solving with Computers

Problem Analysis & Solving Scheme,,Computational procedure, program outline, algorithm, pseudocodes, flow chart, testing of flow chart, branching and looping, writing, executing & testing the program with examples.

(C) Programmming Constants, and Variables

Character set, constantS (numeric string), variables (numeric & String), rules for arithmetic expression and hierarehy of ope~ati6ns, relational expressions, logical expressions and operator, library, functions.

UNIT-2 (A) Working with MS-Office

Introduction to word : Basics of WordProcessing; Features, & Advantages of Word Processing; Creating, editing, formatting & previewing documents; Advanced features; Using Thesaurus, Mail merge, Table & Charts, Implementing OLE concept.

Introductiqo.to Excel : *Worksheet* Basics, Creating, Opening, & Moving in Worksheet, Working with Formula & Cell referencing, Absolute & Relative addressing, Working with Ranges, Formatting of worksheet, Graphs& charts, Database, Function, and Macros.

Intorduction to Power Point : *Creating* a. presentation, Modifying Visual Elements,Adding objects, Applying. Transitions, animations and linking, Preparing, handouts. presenting a slide show.

(B) 'Working on Internet

Intoduction to Internet ; Concept of Internet, Application of Internet, Services on Internet, World WideWeb (WWW) &Web Browsdrs,, working with Internet Explorer. Introduction to Internet search Engines, Yahoo, Alta Vista, Google etc. Surfing the Internet, Chatting on. Internet Electronic Mail (E-Mail), working with Outlook Express; Overview of telnet & FTP (File transfer Protocol) Services. Internet Security, Web security firewalls, Type of firewalls,

UNIT-3 PROGRAMMINGWITH C : PART - A

Introduction Characterset, Identifiers and Keywords, Variables, Displaying variables, Reading Variables, Character and Character,String, Qualifiers, Type define Statements, Value initialized Variables, Constants, Constant Qualifier, Operators and Expressions, Operator Precedence- and Associativity, Basic input output : Single Character I/O General Outputs, Types of Characters in format string, Scanf with Specifier, Searchset

Arrangements and Supression Character, Format Specifier for scanf.

Control Structure: If-statement, If else statement, Multiway decision, Compound **Statement, Loops :** For- loop, While-loop, Do-while loop, Break statement, Switch statement, Continue statement, Goto statement. Functions Function main, Function accepting more than one parameter, User defined and library function, Concept associativity with functions, function parameter, Return value, recursion comparisons, of Iteration and recursion variable length argument list.

UNIT-4 PROGRAMMING WITH C : PART - B

Scopearind Extent, Arrays, Strings, Multidimensional Arrays, Strings, Array of. Strings, I Function in String, Pointers: Definition,and. Use of Pointer, address operator, pinter variable, referencing pointer, void pointers, pointer arithmetic, pointer to pointer, pointer and arrays,-passing arrays to functions, pointer and functions, accessing array inside functions, pointers and two dimensional arrays, array of pointers, pointer constants, pointer and functions, accessing array inside functions, gbinters and two dimensional arrays, array of pointers, pointer constants, pointer and strings.

UNIT-5 PROGRAMMING WITH C :PART - C

Structure and Union, Declaring and using Structure, Structure intialization, Structure within Structure, Operations of Structures, Array of Structure, Array within Structure, Creating user defined data type, pointer to Structure and function. Union, difference between Union and Structure, Operations on Union, Scope of Union.

Dynamic memory allocation. Library function for Dynamic memory allocation, Dynamic Multi-Dimensional arrays, Self-rcferential structure. File:- Introduction, Structure, Filehandling, Functions f ile types, Unbuffered and buffered f ile" Error handling. Low level five Input-Output.

TEXT BOOKS:

1.	PC Software made Simple	-	R.K. Taxali
2.	- Let us C	-	Yashwant Kanitkar
3.	Microsoft Office	-	Ginni Courter, Annotte Marquis, BPB Publication

REFERENCE:

1.	Programming with C	-	SchAum's Series (Tata Mcgraw Hill)
2.	Programming with C	-	K.R. VENIUGOPAL, SUDDEP PRASAD
3.	Computer Today	-	Donald H. Sanders
4.	Fundamentals of Computer	-	V. Rajafaman

PRACTICALWORK:

1. The practical exercises should be done to understand the working of DOS, WINDOWS & also to see the various features of existing versions of Windows OS, (eg. Windows 95, Windows 98, Windows 2000).
2. The sufficient practical work should be done for understanding the topics of Unit-II.
3. At, least Five programs on each unit from Unit III to Unit V be prepared.
4. All practical work should be prepared in form of printouts,& be evaluated, while practical examination.

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ELECTRONICS EQUIPMENT MAINTENANCE

PAPER - I

PRINCIPLES OF ELECTRONICS

(paper code - 0809)

UNIT-1 General information : Symbol, colour code, types (Such an carbon, mental film, thin-film thick-fillm, wire-wound), Variable resistors potentiometers (logarithmic linear multi-turn wire wound rheostate.

Physical properties : Temperature dependence (Thermistor), Light Dependencs (LDR), Voltage Dependence (VDR).technical specification wattage and working voltages. Methods of measurement of resistance: very low to very high values.

INDUCTORS : General Information: symbol, Types each as air core, iron core, ferrite core, chocking inductors (Coil), frequency response of an inductor.

Method of measurement of inductances: using universal bridges design and fabrication rules.

CAPACITORS : General infortnation : symbol, colour code, types of capacitors such as Air, paper, Electrolytic, Mica, Tentalum Polyuterene, fixed and variable capacitors. Measurement of Capacitance: universal bridge. application areas.

BATFERIES : Dry Cells, Lead-Acid Accumulators, Nickel Cadmlum cells, standard cells, principles, Specifications.

FUSES : Fast and Slow Fuses, Pilot Lamps.

PCB : Types of PCB, layout techniques, cables and connectors for PCB

UNIT-2 TRANSFORMERS: General information- principle, types of transformer such as single phase, auto mains and isolation transformers. Frequency dependence of transformer theoriem. (Audio, IF and RF), Design of mains transformers and CVT.

RELAYS : General ihformation: symbol, types of relays, such as rend electromagnefic. Specifications, rating, application areas.

MICROPHONES AND LOUDSPEAKERS : General information: frequency response, input and output Impodance, power rating, directionality (omns and unli-directional). Application areas.

TRANSDUCERS : Commonly used transducers, L.D.R., thermistars thermocouples, phatodioden, pholc transistors, IR detectors L Volt.

UNIT-3 **SWITCHES, CABLE AND CONNECTORS :** Spdl, dpdl, band switches, touch switches, thumpwheel switches, rnicro switches, specifications, application areas.

NETWORK THEOREMS : Kirchoffs current and voltage law, -maximurr. power transfer, **THEOREMT :** bevenins theorem, norton's theorem, super position theorem.

LCR AND WAVESHAPING CIRCLITS : Serial and parallal response, idea of black Nix., qwivalent circuits. Idea of two terminal and two part network, eqi&alent cirewits. Integration, differer lation using R.C. circuits, *chpping clampaig*.

UNIT-4 **NUMBER SYSTEMS :** Introduction to decimal bmiazy, octal floca decial, number system interconversions of decimals binary and BCD number. Binary arithmetic and Boolean algebr& Boolean axiom, D Morgan's theorms- statement vanfication and applications.

LOGIC GATES : Posifive and Negative logic, different logic gate, such as AND, OR NOT, NAI, NOF, EXOR, symbol and truth tables. Inverting a non-irverting suffers.

LOGIC.FAMILIES : TTL, ECL & CMOS parameters like power dissipation, speed, supply requirements, logic level, fan in, fan out noise half addar, full addar, half subtulor.

UNIT-5 **COMBINATIONAL CIRCUITS :** Encioder-decoder sequenfial circuits, flip flops (As,K,,D,I,N,S) -shift, registers, counte% Semiconductors memory.

PAPER - II

ELECTRONIC DEVICES, COMPONENTS & ASSEMBLIES (paper code - 0810)

UNIT-1 INTRODUCTION- TO SEMI CONDUCTORS

ENERGY BAND DIAGRAM: conductors, semi conductor, insulation, intrinsic and exitrinsic sermi conductors (P.N. type), diffused junctions, depletion layer, barrier potential.

JUNCTION DIODES : Rectifying diode, forward and reverse bias characteris tic, switching diode, varacleor diode, photo diode. light emitting diode, IR sources and delector optical isolators, Zener diode, Tunnel diode, tunnel diode.

BIPOLAR JUNCTION TRANSISTORS : Basic working principle (qualitative), characterstic, Basic configurations and baising. Operating point, load line, biasmig for stabilization of operating point.

UINT-2 JEFT & MOSFET: Basic working principle (qualitative), charactenistic Binchoff voltage,

UNI JUNCTION TRANSISTORS : Basic working principle (qualitative), characterstic applications, as a switch.

POWER CONTROL DEVICES : Four layer diode (PNPN), Sillicon conq-olled, rectifier (SCR) tracis, diac, principle & characteristics.

AMPLIFIERS : Different terms used in amplifers, sucn as signal fource ssource, input output, voltage and current gain power gain,- decibel , input and'output impendance. Classification according to the frequency response, RC coupled, class A common emitter Amplifier, Introduction to the class & operafion

FEED BACK IN AMPLIFIER : Effect of negative feedback on amplifier performance.

UNIT-3 POWER AMPLIFIER : Transformer coupled equivalent circuit only in brief, class A, class B. class AB and class C the constant power hyperbola, the AC load line input and output considerations, determination of Non-hner distortion.

PUSH-PULL AMPLIFIERS : Phase splitter circuits, complimentary push-pull, thermal ranway, Heat sinks.

Class B and C resonant load amplifiers, graphical class C analysis, **resonant** load requirements.

OPERATIONAL AMPLIFIER :

Basic, idea of an OPAMP with black box concept miverting and noninverting inputs, virtual ground

Parameters such as input impendance, output impendance, open loop gain, measurements of parameters.

Qualitative description of OPAMP as mverting and non inverting arnphfier, summing and. difference amplifier, comparater and linear ubtegratirs, instrumentation amplifier.

UNIT-4 OSCILLATORS : Positive feed back, barkhausen criltenia, phase shift oscillators, wei bridge oscillators Tuned oscillators, Hartley, colpits-oscillators, crystal oscillator.

POWER SUPPLIES : Regulated power supply, Zener regulated power supply series and shunt regulated power supply, block diagrain of IC 723, regulated supply of IC 723. 11iree ter~nal Ics power supply. Study of power supply. w.r. to variation 'in loadand I 'me voltage.

SWITCHED MODE POWER SUPPLY : Design principle, and application.

IC 555 : Operations and applications.

UNIT-5 MODULATION : AM and FM : Principles, modulation, index, modulation, bandwidth, balanced modulator,

DEMODULATION : Am and Fm delectors diode detectors, ratio detector, balanced demodulator'.

Introduction to communication systems, basic principles and operation of communication system.

ELECTRONICS

PAPER - I

ELECTRON DEVICES & PASSIVE CIRCUITS M.M. 50

(paper code - 0807)

UNIT-1 Physic of semiconductors : Basic idea of crystal structure and energy bands, simple idea of effecctive mass, carrier concentration at normal equilibrium in an intrinsic semiconductor, Fermi level for intrinsic semiconductor. Donors and acceptors, Physical picture of electronic and holes as majority carriers, dependence of Fermi level on donor and acceptor concentration, Law of mass action ($m_p p_p = N_i^2$).

UNIT-2 Basic derivation of the relationship between carrier concentration mobility and electron charge from Ohm's Law, idea of drift and diffusion, simple idea of Hall effect.

PN junction, Barrier formation, current components in equilibrium under open circuit, derivation of barrier potential and current voltage characteristics, the resistance of p-n junction diode and its variation with biasing, definition of transition capacitance, capacitance voltage relationship for an abrupt p.n. junction diode.

Basic idea and working of a varactor diode, Solar, cell, LED, Schottky diode, tunnel diode, Zener diode and qualitative mechanism of breakdown.

UNIT-3 PNP and NPN transistors (Ebber-Moll Model), definition of alpha and beta and derivation of relationship between them, basic idea of junction capacitance.

The construction and working of JEET, the idea of channel width, field dependent mobility showing current dependence of voltage, Physical explanation of different regions of I-V curves, various parameters of JEET.

UNIT-4 MOS Devices, Basic structure and energy level diagram, definition of work function, electron affinity, surface potential and difference between intrinsic Fermi level and Fermi level of doped semiconductor, Physical explanation of the formation of accumulation, depletion and inversion regions under an external bias, the idea of band bending (assume that E_f remains fixed).

Basic construction of MOSFET and its working Physical explanation of the characteristics curve enhancement and depletion modes, MOSFET Parameters.

UNIT-5 Basic idea of the impedance of L, C and R, representation of L and C in presence of loss (non ideal). Transformer and its equivalent circuit, mutual inductance, qualitative idea of magnetic core, Qualitiative idea of Steady State and transient response. Network analysis (resistive and reactive), Network definition, loop and nodal analysis, principle of duality, reduction of complicated network, T and Pi form, conversion between T and Pi sections, superposition theorems, Norton's theorem, maximum power transfer theorem, Definition of Z, Y, H, G, Transmission (A, B, C, D parameters) for two port networks, inter-relationship of these parameters.

PAPER - II

LINEAR ACTIVE CIRCUITS M.M. 50

(paper code - 0808)

UNIT-1 P-N Junction diode characteristic curves, static and dynamic resistance of a diode,

idea of positive, negative biased resistance of a diode, idea of positive, negative biased and combination clipping circuits, Avalanche breakdown and Zener effect, half wave and full wave rectifiers and bridge rectifiers, ripple factor and power conversion efficiency for the half wave and full wave rectifiers, use of Zener diode in power supplies, voltage regulation, filter (series inductor, shunt capacitor, L-C and Pi section filters).

UNIT-2 Characteristic curves of bipolar transistors, determination of load line (static), active, Cut off and saturation regions, dynamic load lines.

Biasing (fixed and self) of a transistor circuit, thermal instability of bias, transfer curves showing dependence of I_E on V_{BE},I_{CO} and beta, I_{CO} and V_{BE}, derivation of stability factor S, S' and S''.

UNIT-3 The black box idea of CE, CB and CC transistor circuit as a two port network, small signal active circuit, hybird model of a CE transistor circuit and its g_M equivalent, similarity in the small signal amplifiers using JEET and BJT, derivation of voltage and current gains, input impedance and output impedance RC coupled amplifier and derivation of half power points for its frequency response, idea of bandwidth.

UNIT-4 Parallel resonant circuit, its quality factor and frequency response, basic circuits for tuned amplifiers, equivalent circuit of a single tuned transistor amplifier and dtermination of its gain amd bandwidth (for CE case), idea of cascading of tuned amplifiers, Class A, Class B and Class C amplifiers, Power amplifiers, analysis and desing considerations of push pull amplifiers.

UNIT-5 Feedback in amplifiers, advantage of negative feedback in amplifiers, voltage and current feedback transistor amplifiers, positive feedback, Barkhausen criterion for self-sustained oscillations, Analysis of LC and Phase shift oscillators, Working of Hartley, Colpitt and Weinbridge Oscillators.

Operational amplifiers : requirements of an ideal Op-Amp, Op-Amp basic idea of common mode gain, difference gain, common mode rejection ratio, application of Op-Amp as inverrting and non inverting amplifier, adder, subtractor, integrator and differentiator.

PRACTICALS M.M. 50

A student is required to do at least 15 experiments in an academic year. The sheme of Practical Examination will be as follows :-

(i) One Experiment 3 Hours

(ii) Marks

Experiment	30
Viva-Voce	10
Sessional	10
	50

LIST OF PRACTICALS :

Fimiliarisation with electronic components :-

I Passive Circuit elements.

II. Active circuit elements including IC.

Familiarisation with basic electronic instruments, Power supply sigma generator LCR bridge. CRO, frequency meter multimeters VTVM, EVM.

1) Determination of energy band-gap of a diode.
2) Verification of Norton's Theorem and Superposition Theorem.
3) Measurement of capacitance and resistance combinations using LCR bridge.
4) Frequency and phase measurement with CRO.
5) Verification fo network theorems (Thevenins and Max. power transfer theorem).
6) Study of simple RC network.
7) Study of series and parallel resonance circuits.
8) Study of diode, (including Zener diode) characteristics.
9) Study of Transistor characteristics.
10) Study of simple power supply.
11) Study of RC coupled amplifier.
12) Study of transistor bias stability.
13) Study of LC oscillator.
14) Study of emitter follower (Measurement if imput, output imedance and gain).
15) Study of transistor phase shift Oscillats.
16) Study of FET characteristics.
17) Study of the clamping and clipping circuits.
18) Study of IC Op-AMP applications, viz. Intergrator, Differentiator, Adder, Subtractor.
19) Study of biasing of a BJT-Designing of potential divider arrangement for given point condition. Measure the de voltage at different points.
20) Study of frequency response of a single CE amplifier (Make your own circuit).

Note : 1. Out of above mentioned twenty experiments at least fifteen experiments should be done, use of bread board and use of soldering is expected for at least four experiments.

2. Other experiments of equal standard may also be set.

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INFORMATION TECHNOLOGY

Elective/Core Subject Information Technology

Eligibility for B.Sc. I, II & III subjects

First Year

Theory

Paper-I	Fundamental of I.T. and PC software	:	50 Marks	(I+II=100)
Paper-II	Programming concept using C Language	:	50 Marks	(I+II+II=150)
Practical		:	50 Marks	

PAPER - I

FUNDAMENTAL OF I.T. COMPUTERS & PC SOFTWARE

(paper code - 0824)

UNIT-1 Introduction to computer Von-Neumann model general architecture of computer input and output devices. Application of computers.

UNIT-2 Fundamental of DOS version of DOS booting process internal and external commands creating and executing batch files, files and directories creating text files.

UNIT-3 Introduction to windows features of windows hardware requirement for running various versions of windows. New installation and upgradation. Origin of windows, part of windows screen, types and anatomy of windows, using program manager, creating and using groups, using file manager Accessories.

UNIT-4 Introduction word processing (MS-WORD) advantage of word processing introduction and installation. Editing a file Using paragraph styles. Newspaper style columns using macros, Advanced word processing, Headers and footers, Finding text setting up printer. Mailmerge and other application Mathematical calculator. Table handling.

UNIT-5 Introduction to spreadsheet (MS-EXCEL) Definition and advantage of electronic worksheet, working on spread sheets, Range and related operations Setting saving and retrieving worksheets, inserting deleting coping and moving of data cells inserting and deleting rows and column protecting cells printing a worksheet erasing a worksheet in Graphs creation types of graphs creating a chart sheet 3D. Columns charts moving and changing the size of chart printing the chart.

BOOK RECOMMENDED :

1. PC Software by Ravi Taxali
2. Computer Fundamental by P. K. Sinha
3. Computer Fundamental by Nagpal.

PAPER - II

PROGRAMMING CONCEPT USING C LANGUAGE

(paper code - 0825)

UNIT-1 History of programming Language Low Level Middle Level and High Level Languages.

Programming Development Techniques using flow charts algorithms Compiler and Interpreters.

UNIT-2 Introduction to C Programming Structure and C Compiler.

Data representation : simple data typeslike real interger character etc.

Program, Statements and Header files Simple Input Output Statements in C Running simple C Programs.

Primitive data types in C++ char integer Float Double Long Double Void etc.

UNIT-3 Opearator and expression Arithmatic Operators Assignments opearator increment and decrement operator relational and boolean operators Mixing of different data types and operators for forming expressions.

Control Structures using if, if else, Nested If else Switch statement Using of loops : For loop situations, while loop situation Nested loops.

UNIT-4 User defined functions (Simple Call by value and recursion)

The array data types 1 dimensional and multi dimensional the array of character constructing strings and string manipulation, data structures, Nested structures and union.

UNIT-5 Introduction to pointers, Use of pointer in function (cell by reference). Pointer in Array, Structures Pionters and file handlings.

BOOK RECOMMENDED :

1. Let us C- y. Kanetkar
2. Ansi C- Balaguruswami
3. Programming in C- Gotrfield (Schaum Series)

PRACTICAL

M.M. : 50

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INDUSTRIAL MICROBIOLOGY

Paper	Title	Time	Marks
First	General Microbiology, Tools and Techniques	3 hrs.	50
Second	Molecular Biology, Biochemistry and Microbial Genetics	3 hrs.	50
	PRACTICAL (including sessionals)	4 hrs.	50 (40+10)

PAPER -

GENERAL MICROBIOLOGY, TOOLS AND TECHNIQUES M.M.50

I (paper code - 0826)

UNIT-1 History and development of Industrial Microbiology. Contributions of antony von Leeuwenhoek, Louis Pasteur, Robert Koch, Edward Jenner, Wakman, Alexandar Flaming.

UNIT-2 General characteristics and structure of Bacteria, Cyanobacteria, Fungi, Actino-mycetes, Mycoplasms, Vinuses.

UNIT-3 Microscopy - Invention of Microscope, Compound microscope, Dark field, Fluorescent, Phase contrast and Electron microscope.

UNIT-4 Method of sterilization, culture media and isolation techniques. Methods of preservation of microbial cultures.

UNIT-5 Basic principles and usage - pH meter, Densitometer, Colorimeter, Spectrophotometry, Fluori-metry, Centrifugation - Principles and applications. Usage of Fermentation.

PRACTICALS

The Practical works will, in general be based on the prescribed syllabhus in theory and the candidates will be required to show the knowledge of the following :

1. Preparation of media, autoclaving and sterilization of glassware.
2. Isolation of Phytopathogens.
3. Isolation of Microorganisms from soil and water : Bacteria, Fungi, and Algae.
4. Purification of microbial cultures.
5. Camera Lucida Drawing.
6. Standard Plate count.
7. Heamocytometer.
8. Chromatographic techniques : Separation of amino acids by paper and thin layer chromatography.
9. Measurement of pH of fruit juice.
10. Estimation of cargohydrate by colorimeter.

BOOK RECOMMENDED :

1. General Microbiology, Vol. II by Power and Daginawala.
2. Microbiology by Pelczar, Reid and chan.
3. General Microgiology by Davis and Harper.
4. A Treatise on Media and Methods Used in Bacteriological Techniques by V. Iswarn.
5. Introductory Mycology by C.J. Alexopoulous & Mims.
6. Microbiology by P.D. Sharma.

PAPER - II

MOLECULAR BIOLOGY, BIOCHEMISTRY AND MICROBIAL GENETICS

(paper code - 0827)

M.M. 50

UNIT-1 Nucleic Acids - Structure of DNA and RNA(s), Replication of DNA, Synthesis of RNAs and their types, Genetic code, Concept of genes.

UNIT-2 Molecular Biology - Translation and Protein Synthesis, Operon Concept, CAMP CAP (Catabolic activator protein), Gene expression in Prokaryotes, Lac-Operon. Gene ragulation in Eukaryotes (Britton-Davison Model of Gene Expression).

UNIT-3 Genetic recombination in Bacteria - Transformation, Transduction and conjugation, Genetic Mapping, Extrachromosomal genetic material, Plasmids, Cosmids, Transposons, Overlapping genes, Silent genes and their evolutionary significance. Mutation - Molecular mechanism of mutation, Chemical and Physical Mutagens, Repair of Mutation Damage.

UNIT-4 Biochemistry - Classification of carbohydrates, Chemical structure and property of starch, Cellulose, Glycogen, Synthesis of Purines & Pyrimidine.
Lipids - Saturated and unsaturated fatty acids, Biosynthesis of fatty acids, Distribution and functions of lipids in microorganisms, Degradation of lipids by O < B and Co oxidation, Lipid peroxidation.

UNIT-5 Enzymes - Classification. Co-enzymes, Cofactors, Mechanism of enzyme action, Competitive and non-competitive inhibition. Allosteric regulations of enzymes, isoenzymes, factors contributing to catalytic efficiency of enzymes.
Amino acids - Classification of essential amino acids based on polarity. Acid-base properties and solubilities. Amino acid sequencing of proteins; Primary, Secondary and Tertiary structure.

PRACTICAL

The Practical work will, in general, be based on the syllabus prescribed in theory and the candidates will be required to show the knowledge of the following -

1. Isolation of antibiotic resistant bacteria.
2. Extimation of alkaline phosphatase activity.
3. Measurement of o<amylase activity in extra-cellular fraction of microbial cultures.
4. Estimation of glycogen in bacterial cells.
5. Measurement of cellulase activity by Viscometric technique.
6. Determination of cellulase and amylase activity by reducing sugar assay test.
7. Isolation of DNA.

BOOK RECOMMENDED :

1. General Microbiology, Vol. 1 by Power & Daginawala.
2. Bicrobial Biochemistry by Moat.
3. Principles of Biochemistry by Lehninger.
4. Outline of Biochemistry by Cohn and Stumph.
5. Biochemistry by Harper.
6. Text book of Biochemistry by Rama Rao.
7. Text book of Biochemistry by O.P. Agrawal.

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BIO CHEMISTRY

PAPER-I

BIOMOLECULES

M.M. 50

(paper code - 0832)

UNIT-I

Introduction to Biochemistry, water as a biological solvent, weak acids and bases, pH, buffers, Henderson-Hasselbalch equation, physiological buffers, fitness of the aqueous environment for living organisms.

CARBOHYDRATES

Structure of monosaccharides. Stereoisomerism and optical isomerism of sugars. Reactions of aldehyde and ketone groups. Ring structure and anomeric forms, mutarotation. Reactions of sugar due to hydroxyl groups. Important derivatives of monosaccharides, disaccharides and trisaccharides (structure, occurrence and functions of important ones). Structure ocurrence and biological importance of monosaccharides, oligosaccharides and polysaccharides e.g. Cellulose, Chitin, agar, algenic acids, pectins, proteoglycans, sialic acids, blood group polysaccharides, glycogen and starch. Bacterial cell wall polysaccharides etc. Glycoproteins.

UNIT-II Lipids

Definition and classification. Fatty acids : introduction, classification, nomenclature, structure and properties of saturated and unsaturated fatty acids. Essential fatty acids, prostaglandins. Triacylglycerols: nomenclature, physical properties. chemical properities and characterzation of fats - hydrolysis, saponification value, rancidity of fats, Reichert-Meissel number and reaction of glycerol. Biological significance of fats. Glycerophospholipids (lecithins, lysolecithins, cephalins, phosphatidyl serine, phosphatidyl inositol, plasmalogens), sphingomyelins, glycolipids - cerebrosides, gangliosides. Properties and functions of phospholipids, isoprenoids and sterols.

UNIT-III Proteins

Introduction, classification based on solubility, shape, composition and functions. Aminoacids: common structural features, stereo-isomerism and RS system of designating optical isomers, classification and chemical properties, titration of amino acids, separation of amino acids. Essential amino acids.

Peptides: structure of peptide bond, chemical synthesis of polypeptides - protection and deprotection of N-terminal, and C-terminal ends and functional groups in the side-chains, formation of peptide bonds, condensing agents, strategy of chemical synthesis, Merrifield solid-phase peptids sysnthesis. Determination of the amino acid sequence of a polypeptide chain, specific chemical and enzymatic cleavage of a polypeptide chains and separation of peptides. Protein structure: levels of structure in protein architecture, primary structure of proteins, secondary structure of proteins helix and pleated sheets, tertiary structure of proteins, forces stabilizing the tertiary structure and quaternary structure of proteins. Denaturation and renaturation of proteins. Behaviour of proteins in solutions, salting in and salting out of proteins. Structure and biological functions of fibrous proteins (keratins, collagen and elastin), glocular proteins (hemoglobin, myoglobin), lipoproteins, metalloproteins, glycoproteins and nucleoproteins

UNIT-IV Nature of genetic material: evidence that DNA is the genetic material, Composition of RNA and DNA, generalized structural plan of nucleic acids, nomenclature used in writing structure of nucleic acids, features of DNA double helix. Denaturation and annealing of DNA, structure and roles of different types of RNA Size of DNA in procaryotic and eucaryotic cells, central dogma of molecular biology, Gene, Genome, chromosome.

UNIT-V Porphyrins

Prophyrins: Porphyrin nucleus and classification of porphyrins. important Metalloporphyrins occurring in nature. Detection of porphyrins spectrophotometrically and by fluorescence. Bile pigments - chemical nature and their physiological significance.

PAPER - II

(paper code - 0833)

BIOPHYSICAL AND BIOCHEMICAL TECHNIQUES M.M. 50

UNIT-I Concepts of Bioenergetics

Principles of thermodynamics and their applications in biochemistry - introduction, thermodynamic system, thermodynamic state functions, first and second laws of thermodynamics, concept of free energy, standard free energy, determination of ΔG for a reaction, relation between equilibrium constant and standard free energy change, biological standard state and standard free energy change in coupled reactions. Biological oxidation-reduction reactions - introduction, redox potentials, relation between standard reduction potentials and free enegy change (dervations and numericals included). High-energy phosphate compounds - introduction, phosphate group transfers-free energy of hydrolysis of ATP and sugar phosphates along with reasons for high ΔG.

UNIT-II Hydrodynamic Methods

Sedimentation - sedimentation velocity, preparative and analytical ultracentrifugation techniques. determination of molecular weight by hydrodynamic methods (derivations excluded and numericals included).

Measurement of pH

Principles of glass and reference electrodes, types of electrodes, complications of pH measurement (dependence of pH on ionic strength, electrode contamination and sodium error) and use of pH paper.

UNIT-III Radioisotopic Techniques

Types of radioisotopes used in Biochemistry, units of radioactivity measurements, techniques used to measure radioactivity (gas ionization and liquid scintillation counting), nuclear emulsions used in biological studies (pre-mounted, liquid and stripping), isotopes commonly used in biochemical studies- ^{32}P, ^{35}S, ^{14}C and ^{3}H.

Autoradiography. Biological hazards of radiation and safety measures in handling radioisotopes. Biological application.

UNIT-IV Chromatography

General principles and applications of :

1. Adsorption chromatography

2. Ion-exchange chromatography
3. Thin-layer chromatography
4. Molecular-sieve chromatography
5. Hydrophobic chromatography
6. Gas-liquid chromatography
7. HPLC
8. Affinity chromatography
9. Paper chromatography

Electrophoresis

Basic principles of agarose electrophoresis, PAGE and SDS-PAGE, Two-dimensional electrophoresis, its importance. Isoelectrofocussing.

UNIT-V Spectroscopic Techniques

Beer-Lambert law, light absorption and its transmittance, determination and application of extinction coefficient, application of visible and UV spectroscopic techniques (structure elucidation and numericals excluded). Principle and application of NMR, ESR, Mass spectroscopy. Fluorescent and emission spectroscopy.

Immunological Techniques

Immunodiffusion, immunoelectrophoresis, radioimmunoassay, ELISA, immunofluorescence.

PRACTICAL M.M. 50

1. Preparation of standard buffers and determination of pH of a solution.
2. Qualitative tests for :
   a. Carbohydrates
   b. Proteins and amino acids
   c. Lipids
3. Determination of saponification value and iodine number of fats.
4. Extimation of ascorbic acid.
5. Titration curve for amino acids and determination of pK value;
6. Verification of Beer-Lambert's law.
7. Estimation of
   (i) Carbohydrate by anthrone method.
   (ii) Blood glucose by the methods (a) Folin-Wu, (b) Nelson-Somogyi
8. Estimation of amino acids by ninhydrin method.
9. Isolation and assay of glycogen from rat liver.
10. (i) Extraction of total lipids by Folch method
    (ii) Estimations of food adulterant.
11. Estimation of DNA and RNA.
12. Separation of sugars using paper chromatography.

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BIOTECHNOLOGY

PAPER - I

BIOCHEMISTRY, MATHS & COMPUTERS

UNIT-1
1. Biochemistry : Introduction scope Development, Definition, aims and nature.
2. Carbohydrates : Structure, Classification and function of mono, Oligo & polysaccharides .
3. Proteins - Introduction, structure, classification, physical & chemical properties.
4. Amino acids : Classification, Essential & non-essential, General properties.

UNIT-2
1. Lipids : Structure, Classification, chemical properties.
2. Enzymes : Introduction, Definition co-enzymes & Cofactors, Nomenclature. Classification, mechanism of enzyme action factors affecting the enzymes action.
3. Hormones : Introduction, Definition, Structure, Classification, Function and application of plant hormone-Auxin and Gibberellins, Animal hormone-Pencreas and Thyroid.

UNIT-3
1. Biological Oxidation : Oxidation & Reduction constitutents of electron transport chain, mechanism of oxidation in electron transport chain.
2. Carbohydrate metabolism - glycogenesis glyconeogenesis, glycogenolysis Glycolysis, Krebs cycle.
3. Fat metabolism - Introduction, metabolism of glycerol fatty acid oxidation, conversion of fats into carbohydrates.
4. Protein metabolism - Introcution, conversion of amino acids, decaboxylation. Deamination of amino acids formation of Urea.
5. Enzyme technology - Introduction, Comparison between enzyme and catalysis procuction of enzyme, chemical energetics, enzyme kinetics, enzyme Immobilization use of enzyme solution, Application of Immobilized enzyme, Enzyme reactor, biosensors enzyme engineering.

UNIT-4
1. Set theory and its properties linear equation.
2. The binomial theorem, Logarithm.
3. Simple Differentiation and Integration
4. Probability Calculation, Methods of Sampling.
5. Measurements of central tendencies and deviations.

UNIT-5
1. Computers - General introduction, Organization of computer, digital and analogue computers, computer algorithm.
2. Computer in on line monitoring and automation.
3. Application of computer in co-ordination of solute concentration, pH and temperature etc. of a fermenter in operation.

List of Books :

1. Nelson and Cox-Principles of Biochemistry, Fourth Edition (2005)
2. Albert L. Lehninger - Biochemistry, Second Edition (2005)
3. Todd and Howards Mason - Text book of Biochemistry, Fourth Edition (2004)
4. Lubert Stryer and Berg - Biochemistry, Fifth Edition (2004)
5. E. Balaguruswamy - Programming in BASIC
6. Diana Rain, Marni Ayers Barby - (2006) Textbook on Q level Programming. 4th Edition.
7. Karl Schwartz : (2006) Guide of Micro Soft. Marina Raod, 4th Edition.

PAPER-II

CELL BIOLOGY, GENETICS AND MICROBIOLOGY

UNIT-1
1. Cell theory and the cell : Idea of cell theory, shape and size.
2. Cell wall and plasma membrane.
3. The nucleus – significance structure nucleolus
   Chromosomes – Morphology, chemical composition, Ultra structure & special types of chromosomes.
4. Mitochondria – Morphology, ultra structure, chemical composition origin & functions.
5. Plastids – Chloroplasts, ultra structure & functions

UNIT-2
1. Cytoskeleton : Microtubules – Structure, chemical composition, microtubules in cilia and flagella and role in cell division, Microfilaments in muscle cells and muscle contraction and in non-muscle cell.
2. Cytoplasm – Structure and functions of endoplasmic reticulum Ribosome's.
3. Golgi complex, Lysosomes, Centrosome.
4. Cell division-Amitosis, motpsos Meiosis & Comparison with Mitosis.
5. Mendel's laws of Inheritance.
6. Linkage and crossing over.

UNIT-3
1. Structural changes in chromosomes
   Deletion, Duplication, Translocation, Inversion etc.
2. Numerical changes in chromosomes
   Aneuploidy, Euploidy (Monoploidy and polyploidy and its importance).
3. Mutation – History, physical and chemical mutagens, Detection of mutation in Drosophila and plants.
4. Human Genetics
5. Structure and synthesis of Nucleic acids

UNIT-4
1. Microbiology - Introduction and History
2. Bacteria - Size, Shape & Structure
3. Classification : Bargey's manual.
4. Microbiol Growth & nutrition.
5. Reproduction : Conjugation, Transduction and Transformation.
6. Genetics of Bacteria, Plasmids, transposons and retropososons.

UNIT-5
1. Viruses – Basic features, structure, classification, multiplication, Bacteriophages (morphology, life cycle, infection and medicinal importance)
2. Mycoplasma – History, classification, structure reproduction & Diseases.
3. Food and Dairy Microbiology – Food-production (Dairy, Alcoholic) Food spoilage & food preservation.
4. Soil Microbiology – Soil & Micro – organisms, Biogeochemical cycles (Carbon nitrogen, sulphur & phosphorous Cycle

List of Books :

1. C.B. Power- Cell biology, First Edition (2005), Himalaya Publishing House.
2. Gereld Karp - Dell and molecular biology, 4th Edition (2005)
3. Lewis J. Klein Smith and Valerie M.Kish - Principles of cell and molecular biology-Third Edition (2002)
4. P.K. Gupta - Cell and molecular biology, Second Edition (2003), Restogi publications.

5. Tortora, Funke and Case - Microbiology, An introduction, sixth Edition (1995), Benjamin/ Cummings Publishing Company.
6. Prescott, Harlyey and Klein - Microbiology, Third Edition, Wm. C. Brown Publishers (1996).
7. P. Chakraoborthy - Textbook of microbiology, Second Edition (2007).
8. C.B., Oowar - Cell biology, Third Edition (2005) Himalaya Publishing Hosue.
9. S.S. Purohit - Microbiology : Fundamentals and Applications, 6th Edition (2004)
10. R.C. Dubey and D.K. Maheshwari : Practical Microbiology. S.Chand Publication.
11. R.C. Dubey and D.K. Maheshwari Microbiology.
12. B.R. Vashishita, A.K. Sinha and V.P. Singh Botany for Degree students. Part I. S.chand & Co. Ltd. New Delhi.
13. B.R. Vashishita, A.K. Sinha and V.P. Singh Botany for Degree students. part II. S.Chand & Co. Ltd. New Delhi.
14. C.J. Alexopoulos : Introductry Mycology. Wiley Eastern Limited.
15. M.S. Ghemawat, J.N. Kapoor, H.S. Narayana : A Textbook of Algae, Ramesh Book Depot, Jaipur.
16. Bendr4e and Kumar : A textbook of Practical Botany - I. Rastogi Publications.
17. Prescott, Harley and Klein - Microbiology. Third Edition. Wm. C. Brown.

PRACTICALS

MICROBIOLOGY AND BIOCHEMICAL TECHNIQUES

(1) Laboratory rules, Tools, Equipment and Other requirements in Microbiological laboratory.
(2) Micrometry – Use of ocular & stage micrometrer
(3) Counting of bacteria by counting chamber, by plate count.
(4) Microscopic examination of living micro organisms
  (a) Temporary wet mount
  (b) Hanging drop technique
(5) Smears and staining methods
  (a) Preparation of bacterial smear
  (b) Simple staining of bacteria
  (c) Acid fast staining
  (d) Negative & Positive gram staining
(6) Preparation of media and cultivation techniques
  (a) Basic liquid media (broth)
  (b) Basic Solid media, (agar slants and deep tubes)
  (c) Demonstration of selective and differential media
  (d) Isolation and enumeration of micro organisms
  (e) Isolation from air.
  (f) Isolation from Soil.
(7) Methods of obtaining pure cultures
  (a) Streak plate method
  (b) Pure plate method
  (c) Spread plate method
  (d) Broth cultures
(8) Growth & Biochemical techniques
  (a) Determination of bacterial growth

(b) Amylase production test
(c) Cellulose production test
(d) Estimation of Sugar in given solution
(e) Extraction and separation of lipids
(f) Extimation of proteins
(g) Isolation and purification of protein.
(h) Kinetic studies on enzymes.
(i) Mitosis and Meiosis
(j) Biostatistics : By Manual and by computer.
1. Problems on chi-square text
2. Problems on mean, mode and median.

SCHEME OF PRACTICAL EXAMINATION

Time – 4 hrs. **M. M. : 50**

1.	Instrument based Experiment (Two) 5x2	:	10	Marks
2.	Experiment based on Culture of Micro-organisms	:	10	Marks
3.	Bacterial Growth	:	07	Marks
4.	Biochemical techniques	:	08	Marks
4.	Bio statistics	:	05	Marks
5.	Viva – Voce	:	05	Marks
6.	Record/Sessional	:	05	Marks

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पं. रविशंकर शुक्ल विश्वविद्यालय रायपुर (छत्तीसगढ़)

पाठ्यक्रम

बी.एस.सी. भाग-1 (कोड-301)

B. Sc. Part - I (Code - 301)

परीक्षा : 2015

कुलसचिव पं. रविशंकर शुक्ल विश्वविद्यालय

रायपुर (छत्तीसगढ़) की ओर से

अधिकृत मुद्रक एवं प्रकाशक :

गीता पब्लिकेशन

महामाईपारा, रायपुर (छत्तीसगढ़)

मूल्य : 25/–

पं. रविशंकर शुक्ल विश्वविद्यालय
रायपुर (छत्तीसगढ़)

पाठ्यक्रम

बी.एस.सी. (गृह विज्ञान) B.Sc. (Home Science) - I (Code-901)

बी.एस.सी. (गृह विज्ञान) B.Sc. (Home Science) - II (Code-902)

बी.एस.सी. (गृह विज्ञान) B.Sc. (Home Science) - III (Code-903)

परीक्षा : 2015

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REVISED ORDINANCE NO. - 27

(As per state U.G.C. Scheme)

BACHELOR OF SCIENCE (HOME SCIENCE)

(Degree's Name amended in C.C. on 02.02.06)

1. The three year course has been broken up into three parts, Part-I, known as Bachelor of Science (Home Science) Part-I Examination at the end of the First year, Part-II known as Bachelor of Science (Home Science) Part-II Examination at the end of the Second year and Part-III known as Bachelor of Science (Home Science) Part-III Examination at the end of the third year.

2. A candidate who after passing (10+2) or Intermediate examination with Science Subject Home Science group of Science Subject Maths Group, Commerce Group, Arts Group with one subject Home Science, Vocational Course of (10+2) C.G. Board of Secondary Education, Or any other exam. Reoognised by University or C.G. Board of Secondary education as equivaent thereto, has attended a regular course of study in an affiliated college or in the teching deptt. of the University for one academic year shall be eligible at the bachelor of home science part I examination."

3. A candidate who after passing Part-I of the Bachelor of Science (Home Science) examination of the University or any other examination recognised by the University as equivalent there to has attended a regular course of study for one academic year in an affiliated college or in the Teaching Department of the University shall be eligible for appearing at the Bachelor of Science (Home Science) Part-II Examination.

4. A candidate who after passing the Bachelor of Science (Home Science) Part-II examination of the University has completed a regular course of study for one academic year in an affiliated College or in the Teaching Department of the University, shall be eligible for appearing at the Bachelor of Science (Home Science) Part-III (Final) Examination.

5. Every candidate appearing at the Bachelor of Science (Home Science) Part-I, Part-II, and Part-III (Final) examinations shall be examined in subject approved by the faculty and notified as per scheme for the examination concerned.

6. In order to pass at any part of the three year degree course examination, an examinee must obtain not less 33% of the total marks in each subject/group of subjects. In paper where both theory and practical examinations are provided an examinee must pass in both theory and practical part of examination separately.

7. Candidate will have to pass separately at the Part-I, Part-II and Part-III examination. No division shall be assigned on the results of the Part-I and Part-II examinations. In determining the division of the Final examination total marks obtained by the examinees in their Part-I, Part-II and Part-III examination in the aggregate shall be taken into account.

   Provided in case of candidate who has passed the examination through the supplementary examination having failed in one subject/group only, the total aggregate

marks being carried over for determining the division shall include actual marks obtained in the paper/papers in which she appeared at the supplementary examination.

8. Successful examinees at the Part-III examination obtaining 60% or more marks shall be placed in the First Division, those obtaining less than 60% but not less than 45% marks in the Second Division and other successful examinees in the third division.

USE OF CALCULATORS

The students of Degree/P.G. classes will be permitted to use of Calculators in the examination hall from annual 1986 examination on the following conditions as per decision of the standing committee of the Academic Council at its meeting held on 31-1-1986-

1. Student will bring their own Calculators.

2. Calculators will not be provided either by the university of examination centres.

3. Calculators with memory and following variables be permitted +, -, x, ¸, square, reciprocal, expotentials, log sqare, root, trignometric functions,viz, sine, cosine, tangent etc. factorial summation, xy, yx, and in the light of objective approval of merits and demerits of the viva only will be allowed.

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B.Sc (Home Science) PART - I

MARKING SCHEME

S.N.	Subject Group Paper	M.M. Theory	M.M. Practical	Total	Min. Marks. Theory	Pract.
Group - I						
A.	Environmental Studies	75		100	33	
	Fild Work	25				
	Foundation Course					
B.	Hindi Language - I	75		75	26	
C.	English Language - II	75		75	26	
Group - II						
A.	Fundamentals of Food & Nutrition	50	25	75	33	09
B.	Introduction to Resource Management Ecology & Environment	50	25	75		09
Group - III						
A.	Introductin Human Development & Family Dynamics	50	25	75	33	09
B.	Introduction to Textile and Clothing	50	25	75		09
Group - IV						
A.	Community Development perspechives & Approaches Socio-Economic analysis of community.	50	25	75	33	09
B.	Personal Empowerment & Computer Barics	50	25	75		09

DISTRIGUTION OF MARKS IN VARIOUS PRACTICALS
(ENCLOSURE -2)

S.No.	Name of the Practical	Total M.	Ses-sinal	Viva	Practical	Marks
1.	Fundamentals of food & Nautrition	25	05	05	A. Preparation & Pre-sentation) any one Recepie.....	10
					B. Taste	05
2.	Introduction to Resource Management, Eco. & Environment.	(On Ecology & Any Two)				8+7
3.	Introduction to Human Dev. & Family Dynamics.	25	05	-	A. Preparation of any one articla of Baby Kit	10
					B. Preparation of Baby Toy or wearing Food or Imm. Chart.	10
4.	Introduction ot textile & Clothing	25	05	-	A. Drafting	05
					B. Stiching	10
					C. Weave	05

S.No.	Name of the Practical	Total M.	Ses-sinal	Viva	Practical	Marks
5.	Community Deve. Perspective & approaches Socio-Economic analysis of Community	25	10	05	Preparation of audio-visual aids	10
6.	Personal Empowerment & Computer Pasics.	25	05	05	Computer Practical	15

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Part - I

SYLLABUS FOR ENVIRONMENTAL STUDIES AND HUMAN RIGHTS

(Paper code-0828)

MM. 75

इन्वारमेंटल साईंसेस के पाठ्यक्रम को स्नातक स्तर भाग–एक की कक्षाओं में विश्वविद्यालय अनुदान आयोग के निर्देशानुसार अनिवार्य रूप से शिक्षा सत्र 2003–2004 (परीक्षा 2004) से प्रभावशील किया गया है। स्वशासी महाविद्यालयों द्वारा भी अनिवार्य रूप से अंगीकृत किया जाएगा।

भाग 1, 2 एवं 3 में से किसी भी वर्ष में पर्यावरण प्रश्न–पत्र उत्तीर्ण करना अनिवार्य है। तभी उपाधि प्रदाय योग्य होगी।

पाठ्यक्रम 100 अंकों का होगा, जिसमें से 75 अंक सैद्धांतिक प्रश्नों पर होंगे एवं 25 अंक क्षेत्रीय कार्य (Field Work) पर्यावरण पर होंगे।

सैद्धांतिक प्रश्नों पर अंक – 75 (सभी प्रश्न इकाई आधार पर रहेंगे जिसमें विकल्प रहेगा)

(अ) लघु प्रश्नोंत्तर – 25 अंक

(ब) निबंधात्मक – 50 अंक

Field Work – 25 अंकों का मूल्यांकन आंतरिक मूल्यांकन पद्धति से कर विश्वविद्यालय को प्रेषित किया जावेगा। अभिलेखों की प्रायोगिक उत्तर पुस्तिकाओं के समान संबंधित महाविद्यालयों द्वारा सुरक्षित रखेंगे।

उपरोक्त पाठ्यक्रम से संबंधित परीक्षा का आयोजन वार्षिक परीक्षा के साथ किया जाएगा।

पर्यावरण विज्ञान विषय अनिवार्य विषय है, जिसमें अनुत्तीर्ण होने पर स्नातक स्तर भाग–एक के छात्र/छात्राओं को एक अन्य विषय के साथ पूरक की पात्रता होगी। पर्यावरण विज्ञान के

सैद्धांतिक एवं फील्ड वर्क के संयुक्त रूप से 33% (तैंतीस प्रतिशत) अंक उत्तीर्ण होने के लिए अनिवार्य होंगे।

स्नातक स्तर भाग–एक के समस्त नियमित/भूतपूर्व/अमहाविद्यालयीन छात्र/छात्राओं को अपना फील्ड वर्क सैद्धांतिक परीक्षा की समाप्ति के पश्चात् 10 (दस) दिनों के भीतर संबंधित महाविद्यालय/परीक्षा केन्द्र में जमा करेंगे एवं महाविद्यालय के प्राचार्य/केन्द्र अधिक्षक, परीक्षकों की नियुक्ति के लिए अधिकृत रहेंगे तथा फील्ड वर्क जमा होने के सात दिनों के भीतर प्राप्त अंक विश्वविद्यालय को भेजेंगे।

UNIT-I THE MULTI DISCIPLINARY NATURE OF ENVIRONMENTAL STUDIES

Definition, Scope and Importance

Natural Resources:

Renewable and Nonrenewable Resources

(a) Forest resources: Use and over-exploitation, deforestation, Timber extraction, mining, dams and their effects on forests and tribal people and relevant forest Act.

(b) Water resources: Use and over-utilization of surface and ground water, floods drought, conflicts over water, dams benefits and problems and relevant Act.

(c) Mineral resources: Use and exploitation, environmental effects of extracting and using mineral resources.

(d) food resources: World food problems, changes caused by agriculture and overgrazing, effects of modern agriculture, fertilizer-pesticide problems, water logging , salinity.

(e) Energy resources: Growing energy needs, renewable and non-renewable energy sources, use of alternate energy sources.

(f) Land resources: Land as a resource, land degradation, man induced landslides soil erosion and desertification.

(12 Lecture)

UNIT-II ECOSYSTEM

(a) Concept, Structure and Function of and ecosystem

- Producers, consumers and decomposers.
- Energy flow in the ecosystem

- Ecological succession
- Food chains, food webs and ecological pyramids.
- Introduction, Types, Characteristics Features, Structure and Function of Forest, Grass, Desert and Aquatic Ecosystem.

(b) Biodiversity and its Conservation

- Introduction - Definition: genetic. species and ecosystem diversity
- Bio-geographical classification of India.
- Value of biodiversity: Consumptive use. productive use, social ethics, aesthetic and option values.
- Biodiversity at global, National and local levels.
- India as mega-diversity nation.
- Hot spots of biodiversity.
- Threats to biodiversity: habitat loss, poaching of wildlife, man-wild life conflict.
- Endangered and endemic species of India.
- Conservation of biodiversity: In situ and Ex-situ conservation of biodiversity.

(12 Lecture)

UNIT- III

(a) Causes, effect and control measures of

- Air water, soil, marine, noise, nuclear pollution and Human population.
- Solid waste management: Causes, effects and control measures of urban and industrial wastes.
- Role of an individual in prevention of pollution.
- Disaster Management : floods, earthquake, cyclone and landslides.

(12 Lecture)

(b) Environmental Management

- From Unsustainable to sustainable development.
- Urban problems related to energy.

- Water conservation, rain water harvesting, watershed management.
- Resettlement and rehabilitation of people, its problems and concerns.
- Environmental ethics: Issues and possible solutions.
- Climate change, global warming, acid rain, ozone layer depletion, nuclear accidents and holocaust.
- Wasteland reclamation
- Environment protection Act: Issues involved in enforcement of environmental legislation.
- Role of Information Technology in Environment and Human Health.

UNIT- IV

General background and historical perspective- Historical development and concept of Human Rights, Meaning and definition of Human Rights, Kind and Classification of Human Rights.

Protection of Human Rights under the UNO Charter, protection of Human Rights under the Universal Declaration of Human Rights, 1948.

Convention on the Elimination of all forms of Discrimination against women.

Convention on the Rights of the Child, 1989.

UNIT- V

Impact of Human Rights norms in India, Human Rights under the Constitution of India, Fundamental Rights under the Constitution of India, Directive Principles of State policy under the Constitution of India, Enforcement of Human Rights in India.

Protection of Human Rights under the Human Rights Act, 1993- National Human Rights Commission, State Human Rights Commission and Human Rights court in India.

Fundamental Duties under the Constitution of India.

Reference/ Books Recommended

1. SK Kapoor- Human rights under International Law and Indian Law.
2. HO Agrawal- Internation Law and Human Rights
3. एस.के. कपूर – मानव अधिकार
4. जे.एन. पान्डेय – भारत का संविधान
5. एम.डी. चतुर्वेदी – भारत का संविधान
6. J.N.Pandey - Constitutional Law of India
7. Agarwal K.C. 2001 Environmental Biology, Nidi pub. Ltd. Bikaner

8. Bharucha Erach, the Biodiversity of India, Mapin pub. Ltd. Ahmedabad 380013, India, Email: mapin@icenet.net(R)
9. Bruinner R.C. 1989, Hazardous Waste Incineration. McGraw Hill Inc.480p
10. Clark R.S. Marine pollution, Clanderson press Oxford (TB)
11. Cuningham, W.P.Cooper. T.H.Gorhani, E & Hepworth. M.T,200
12. Dr. A.K.- Environmental Chemistry. Wiley Eastern Ltd.
13. Down to Earth, Center for Science and Environment (R)
14. Gloick, H.P. 1993 Water in crisis. pacific institute for studies in Deve. Environment & Security. Stockholm Eng. Institute. Oxford University, Press. m 473p.
15. Hawkins R.E. Encyclopedia of Indian Natural History, Bombay Natural History Society, Mumbai (R)
16. Heywood, V.H. & Watson, T.T.1995 Global Biodiversity Assessment, Cambridge Univ. Press 1140p
17. Jadhav H. & Bhosale, V.H. 1995 Environmental Protection and Law. Himalaya pub. House, Delhi 284p
18. Mckinney M.L.& School R.M.1996, environmental Science systems & solutions, web enhanced edition, 639p
19. Mhadkar A.K. Matter Hazardous, Techno-Science publication(TB)
20. Miller T.G.Jr. Environment Science, Wadsworth publication co. (TB)
21. Odum E.P.1971, Fundamentals of Ecology, W.B. Saunders Co. USA,574p
22. Rao M.N. & Datta, A.K. 1987, Waste water treatment. Oxford & IBH pub.co.pvt. Ltd 345p
23. Sharma B.K. 2001, Environmental chemistry, Goel pub. House, Meerut
24. Survey of the Environment, The Hidu(M)
25. Townsend C. Harper J. And Michael Begon, Essentials of Ecology, Blackwell Science(TB)
26. Trivedi R.K.Handbook of Environment Laws, Rules, Guidlines, Compliances and Standards, Vol land II, Environment Media(R)
27. Trivedi R.K. and P.K. Goel, Introduction to air pollution, Techno-Science publication (TB)
28. Wanger K.D.1998, Environmental Management. W.B. Saunders Co. Philadelphia, USA 499p

आधार पाठ्यक्रम

प्रश्न पत्र - प्रथम

हिन्दी भाषा (पेपर कोड-0551) **पूर्णांक - 75**

नोट :

1. प्रश्न पत्र 75 अंक का होगा ।
2. प्रश्न पत्र अनिवार्य होगा ।
4. इसके अंक श्रेणी निर्धारण के लिए जोड़े जावेंगे ।
5. प्रत्येक इकाई के अंक समान होंगे ।

पाठ्य विषय -

इकाई-1 पल्लवन, पत्राचार तथा अनुवाद एवं पारिभाषिक शब्दावली ।

इकाई-2 मुहावरे-लोकोक्तियाँ, शब्दशुद्धि, वाक्य शुद्धि, शब्द ज्ञान-पर्यायवाची, विलोम, अनेकार्थी, समश्रुत (समानोचरित) अनेक शब्दों के लिए एक शब्द ।

इकाई-3 देवनागरी लिपि की विशेषता, देवनागरी लिपि एवं वर्तनी का मानक रूप ।

इकाई-4 कम्प्यूटर में हिन्दी का अनुप्रयोग, हिन्दी में पदनाम ।

इकाई-5 हिन्दी अपठित, संक्षेपण, हिन्दी में संक्षिप्तीकरण ।

पाठ्य क्रम के लिए पुस्तकें -

1. भारतीयता के स्वर साधन धनंजय वर्मा - म. प्र. ग्रंथ अकादमी ।
2. नागरी लिपि और हिन्दी - अनंत चौधरी - ग्रंथ अकादमी पटना ।
3. कम्प्यूटर और हिन्दी - हरिमोहन - तक्षशिला प्रकाशन, दिल्ली ।

FOUNDATION COURSE

PAPER - II

ENGLISH LANGUAGE (Paper Code-0552) M.M. 75

UNIT-1 **Basic Language skills : Grammar and Usage.**

Grammar and Vocabulary based on the prescribed text.

To be assessed by objective / multiple choice tests.

(Grammar - 20 Marks
Vocabulary - 15 Marks)

UNIT-2 **Comprehension of an unseen passage.** 05

This should imply not only (a) an understanding of the passage in question, but also (b) a grasp of general language skills and issues with reference to words and usage within the passage and (c) the Power of short independent composition based on themes and issues raised in the passage.

To be assessed by both objective multiple choice and short answer type tests.

UNIT-3 **Composition :** Paragraph writing 10

UNIT-4 **Letter writing** (The formal and one Informal) 10

Two letters to be attempted of 5 marks each. One formal and one informal.

UNIT-5 **Texts :** 15

Short prose pieces (Fiction and not fiction) short poems, the pieces should cover a range of authors, subjects and contexts. With poetry if may sometimes be advisable to include pieces from earlier periods, which are often simpler than modern examples. In all cases, the language should be accessible (with a minimum of explanation and reference to standard dictionaries) to the general body of students schooled in the medium of an Indian language.

Students should be able to grasp the contents of each plece; explain specific words, phrases and allusions; and comment on general points of narrative or argument. Formal Principles of Literary criticism should not be taken up at this stage.

To be assessed by five short answers of three marks each.

BOOKS PRESCRIBED -

English Language and Indian Culture - Published by M.P. Hindi Granth Academy Bhopal.

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PAPER - I

FUNDAMENTALS OF FOOD AND NUTRITION (CORE) (Paper Code-0553)

Marks: 50

OBJECTIVES :

This course will enable the student to

1. Understand the functions of food and the role of various nutrients, their requirements and the effects of deficiency and excess (in brief).
2. Learn about the structure, composition, nutritional contribution and selection of different foodstuffs.
3. Be familiar with the different methods of cooking, their advantages and disadvantages.
4. Develop an ability to improve the nutritional quality of food.

THEORY :

UNIT-I

1. Concept of Nutrition - Food; Nutrients, Nutrition, under & over Nutrition, Health.
2. Functions of Food
3. Basic Terminology used in food preparation

UNIT-II **Nutrients : Macro nutrients**

Classification, sources, functions
Recommended Dietary Allowances
Deficiency and excess (in brief)
Water
Carbohydrates
Fats
Protien
Fibre

UNIT-III

Calcium
Iron
Magnesium
Zinc
Fluorine
Iodine, Selenium, Copper, Manganese
Fat-soluble vitamins (A,D,E,K)
Water soluble Vitamins (Thiamine, Riboflavin, Niacin)
Vitamin C, Folic Acid
Pyridoxine, Panthothenic acid, B12

UNIT-IV **Food Production (in brief), Food Composition Structure nutritional contribution and selection factors for the following**

Cereals and Millets
Pulses
Fruits
Vegetables
Milk and milk products
Nuts and oilseeds
Meat, fish and poultry
Eggs
Sugars
Tea, coffee, cocoa, chocolate and other beverages
Condiments and spices
Processed foods

UNIT-V Methods of Cooking, their Advantages and Disadvantages and Effect on Nutritive Value

Improving Nutritional Quality of Foods
Germination
Fermentation
Supplementation
Substitution
Fortification and enrichment

REFERENCES :

Robinson, C.H., Lawler, M.R. Chenoweth W.L. and Garwick A.E. (1986) : Normal and therapeutic Nutrition, 17th Ed., Macmillan Publishing Co.

Swaminathan, M.S. (1985) : Essentials of Food and Nutrition VI : Fundamentals Aspects VII: Applied Aspects.

Hughes, O,Bennion, M. (1970) : Introductory Foods, 5th Edn., MacMillan Company.

Williams, S.R. (1989) : Nutrition and Diet Therapy, 4th Edn., C.V. Mosby Co.

PRACTICALS

OBJECTIVES :

1. To acqure skills in food preparation techniques
2. To use appropriate methods of cooking for preparation of specifiec food products.

ANY EIGHT UNITS

UNIT-I Use and care of Kitchen equipment

UNIT-II Controlling Techniques

a. Weights and Measures standard and household measures for raw and cooked food.
b. Cereal and flour mixtures - basic preparations (15+3)
   i. Boiled rice and rice pulao
   ii. Chapati, puri, paratha
   iii. Sandwithes
   iv. Pastas
   v. Pancakes, biscuits, cookies, cakes
c. Pulses and legumes - using whole dehusked and sprouted

UNIT-IV Vegetables

a. Simple salads
b. Dry vegetables
c. Curries

UNIT-V Fruits

Fruit preparations using fresh and dried-stewed fruit, fruit salad

UNIT-VI Milk

a. Porridges
b. Curds, paneer and their commonly made preparation
c. Milk based simple desserts and puddings - custards, kheer, ice-cream

UNIT-VII Meat - cuts of meat

a. Meat preparations
b. Poultry
c. Fish

UNIT-VII Hard and soft cooked poached, scrambled, fried omelette, eggyolks

UNIT-IX Soups

Basic, clear and cream soups

UNIT-X Snacks

Pakoras, cheese toast, upma, poha

UNIT-XI Peanut, chikki, til ladoo

REFERENCES :

1. Robinson, C.H., Lawler, M.R., Chenoweth, W.L. and Garwick, A.E. (1986) : Normal and Therapeutic Nutrition, 17th Ed., Macmillan Publshing Co.

PAPER - II

INTRODUCTION TO RESOURCE MANAGEMENT; ECOLOGY & ENVIRONMENT (Paper Code-0554) Marks : 50

FOCUS :

This course deals with the management of resources in the family with particular reference to mobilising all the resources for achieving the family goals. It also deals with the factors motivating management and management applied to specific resources. The course intends to create awareness, appreciation and understanding of environment. The major environmental issues and problems are to be critically analysed for inculacting environmental consciousness among the learners and to help them take individual/ household/community level decision for making the physical environment condcive for family living. The course content has to be taught at an elementary level.

OBJECTIVES :

1. To create an awareness among the students about management in the family as well as the other systems.
2. To recognize the importance of wise use of resourcs in order to achieve goals.
3. The physical environment and its components and the major issues
4. The impact of human activities on environment
5. The action needed for checking environmental threats

THEORY :

UNIT - I Introduction to Management

Basic concepts of Management

Purpose of Management

Achievement of Goals

Obstacles to the Improvement of Management

Factors affecting management

a. Life style
b. Type of family
c. Family size, stage of family life cycle

UNIT-II Factors Motivating Mangement

a. Goals, definition, types and utility
b. Values - Importance, sources of values, classification, characteristics, changing values
c. Standards - Definition, classification-quantitative, qualitative, conventional and non-conventional
d. Decision - Role of decision making in management, resource availibility

UNIT-III Management Process

a. Meaning and elements of process - planning, controlling the plan and evaluating, decision making
b. Planning - Importance, techniques, types of plan
   i. Controlling the plan in action
   ii. Phases energizing checking
      - Factors in success of the control step
      - Suitability

- Promptness
- New decisions
- Flexibility

iii. Supervisions of delegated plan
- Types of supervision - direction and guidance
- Analysis of supervision

iv. Evaluation - Importance, relationship to goals
- Types-Informal and formal, overall and detailed
- Techniques of self-evaluation
- Evaluation of the whole process of management

Resources in the Family

a. Types of resources

b. Factors affecting the use of resources

UNIT-IV **Introduction**

Meaning and definition of ecology and environment, scope of the subject.

Land

as a resource, energy and mineral resources land pollution - sources, domestic waste major health hazards prevention and control.

Water

Problems and issues : Water pollution and scarcity, pollutants - health hazards and their control

Utility of forests and forest resources, deforeslation and its impact, forest conservation.

Air

Composition; air pollutants sources, their health hazards, green house effect

UNIT-V **Energy**

Major sources of energy - alternate energy sources and energy conservation measure.

Habitat and Population

Uncontrolled population growth and its impact, control measures.

Environmental Education

Meaning, need and objectives, highlights, role of government, NGOs and educational institutions, national and international agencies.

Environmental Protection

Policies, programmes and legislations

PRACTICALS

ANY EIGHT PRACTICALS

1. Visit to Air Quality Monitoring unit of the Mucipal Corporation
2. Visit to water supply station and sewage plant to study the water supply system and the waste water and sewage disposal.
3. Identify the Food Chain in our daily life.
4. Study the water cycle and water distribution on earth.
5. Study the cooling effects of evaporation.
6. Study the uses of solar energy

Practicals of Family resource management of B.H.Sc. Part I of Pt. R.S.S. Uni. Raipur.

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19. Water Resource Management. P. 179-264 in Strategies in Dvelopment Planning. Edited by Singh, Alok Kumar & Rai, Vinay Kumar & Mishra, Anand Prasad.

PAPER - III

INTRODUCTION TO HUMAN DEVELOPMENT & FAMILY DYNAMICS

(Paper Code-0555) **Marks : 100**

FOCUS :

This is an attempt to guide undergraduate students in understanding of the field of Human Development in a basic way.

A Concious deviation is taken from the stage-wise approach to the life span so as to make the course more meaningful and to allow for flexibility in understanding human development, as a continuous process. All topics are given a cross-cultural orientation. The major topics covered are : An overview of the field ; factors important for growth and development; different dimensions of development across the life-span namely, physical and motor, cognition, language, socio-emotional and personality and finally relevant issues in human development and social change.

Techers are encouraged to use the points of emphasis mentioned and culturally relevant examples to stimulate throught and participatroy discussion. The use of Video-films is also recommended to suppliement course content and facilitate discussions.

This course purports to create awareness and appreciation for the role and functions of marriage and family as basic institutions. The changing trends, the dynamics of adjustment and contemporary problems and issues are to be critically analysed for developing better understanding of needs, adjustment areas and intervention strategies.

OBJECTIVES :

The student will -

1. Acquire knowledge and insights about the dynamics of contemporary marriage and family systems in India.
2. Become acquainted with the concept, goals and areas of adjustment in marital relationship and within the family.
3. Become aware of the changing roles and relationships within the family.
4. Understand the dynamics of families in distress and crisis.
5. Become aware of the interventive and preventive family welfare measures.
6. To introduce the student to the field of human degvelopment : concepts, scope, dimensions and interrelations.
7. To sensitize the student to social and cross-cultural contexts in Human Development.
8. To sensitize the student to interventions in the field of Human Development.

UNIT-I An overview of the Field of HD & Early childhood care & education.

i. What Human Development ? Why do we need to student it ? Definition of development and human development with focus on life span nature and context of development, i.e. family and society, variations across cultures, and individual differences in human development.

(a) Pre-School Centres (b) day caro contres (c) hobby cenres, (d) early stimulation programs, (e) ICDS anganwadis,

ii. Family and child welfare : (a) family walfare programs, (b) child welfare programs, (c) probrams of the care of oldorly, (d) organizations catering to advocacy.

iii. Children with special needs : (a) specialized counselling centres (as planner), (b) schools, (c) early intervention, (d) developmental testing.

---------- **Growth and Development**

a. Understanding growth and development (definitions)

b. General principles of development.

c. Constraints and facilitators in growth and development (influences of heredity and environment).

- Genetic inheritance : (i) fertilization (ii) Number of chromosomes, (iii) the uniqe third pair determines sex, (iv) genotype and phenotype, (v) sex linked genetic effects.
- Environmental per-requisites : (i) nutrition, (ii) opportunites.
- Interaction between enviroment and inheritance : (i) genes provide the

predisposition, range and direction of development, (ii) environment determines the extent or limit.

d. The beginning of a new life

- Prenatal development and the birth process can be covered by a film Or emphasize major developments during the three stages of inter-uterine development and the stages of the birth process.
- Prenatal insluneces on the child : biological risks, age of mother, physical characteristics, illness, diet and nutrition, strees and emotional strains, environmental hazards.
- Cultural variations in child birth practices.
- Productive thinking reasoning

UNIT-II What is physical and motor development ?

Physical Development

- The new born physical appearance : size, weight, bodily proportions, sensory capacities i.e. hearing, vision, taste, smell, touch, temperature and position.
- Changes in size, shape, muscles and bones and brain as it continues through : infancy end of infancy, preschool, middle childhood, adolescent growth spurt (include primary and secondary sexual characteristics and psychological impact of adolescence), plateau in adulthood, decreasing physical abilities in old age.
- Linking physical and motor developmet.
- Motor development : reflexes in infancy; major milestones through end of infancy, preschool years, middle and late childhood, adolescence; plateau in adulthood, declining co-ordination in middle adulthood and old age.
- Physical and motor development can be influenced through : (i) Maturation, (ii) nutrition, (iii) monitoring and health care, (iv) stimulation, (v) practice.

The Development of Language Across the Life Span

Language as a form of communication

- Functions of language : expressing wishes, controlling others, interacting with others, expressing individuality, exploring the world, pretending, using language to communicate/share information, understading our society and culture, reasoning.

UNIT-III Cognitive Development Across the Life Span

a. What is cognitive development ?

- The concept of intelligence
- A brief introduction to Piaget's theory)introduce stages withour much elaboration : sensorimotor stage in infancy concrete operational stage in childhood (changes in remembering the reasoning in middle childhood, formal operations in adolescence, fluid and crystallized intelligence in adulthood, declining cognitive abilities in late adulthood and old age.)
- Every day cognition : perception, creativity, imagination, productive thinking reasoning.

(Note : The section on cognition is based Piagetian approach. Howere, it must be taught with emphasis on changing process across life span without using technical terms of the theory.)

The Developmet of Language Across the Life Span

Language as a form of communication

- Functions of language : expressing wishes, controlling others, interacting with others, expressing individuality, exploring the world, pretending, using language

to communicate/share information, understanding our society and culture, reasoning.

- Communicating before language development i.e. the stages of vocalization: undifferentiated crying, differentiated crying, babbling, lmitation of sound, patterned speech.
- Beginning to use language : one or two word utterances; early sentences; telegraphic speech; understanding metaphors, similes, irony, reflecting on superficial and deeper level meanings of sentences.
- Uses of language; conversational acts (non-verbal) conversational convertions, learning to listen.
- Language is refined through middle, late childhood and puberty; language linked to academic skills, cognition and thought.
- Language development can be influenced through : (i) maturation, (ii) stimulation
- Deviations in language development : in language development : Possible decline of language in the aged, (speech impairment and disorders to be introduced briefly).

(Note : While teaching this topic emphasize variations in language development - for exmple, by gender and socio-economic strate etc. Also introduce issues of bilingualism and multilingualism.

UNIT-IV Socio-emotional Development Across the Life Span

a. Understanding social and emotional development

b. Social development :

- Introduce socialization as an important part of the process of becoming human.
- Social milestones : beginning with the emergence of the social smile; attachment, separation, anxiety, acquiring sex roles in childhood, induction into occupational roles by adulthood, social isolation and consequences in late adulthood and in the elderly.
- Patterns and role of parent-child interactions, interactions with siblings and peers; social and cultural interactions through infancy to old age.

c. Emotional development :

- Emotions serve two adaptive functions : (i) motivating and (ii) communication.
- Basic emotional reactions (joy, fear, jealousy, anger, sadness, aggressions)
- Components of emotion : (i) emotions are elicited by the context, (ii) include bodily activity, (iii) emotional expressions are made through facial expressions, bodily movements, vocationalization, (iv) labelling emotions.
- Emotions may be acquired as a result of/by the Influence of - (i) internal and external sources, (ii) cognition, (iii) learning and (iv) social reinforcement.
- Milestones of emotional development through infancy and childhood emotional confusions and adolescence, stability of emotions in adulthood and old age.
- Emotional problems : (i) depression, (ii) over-activity, (iii) aggression.

Presonality Development Across the Life Span

a. What is presonality ?

b. How personality develops across the life span : temperament and sense of

self in infancy and childhood, identity development in adolescence, crystallization of identity by late adolescence and early adulthood, stability versus personality change in adulthood and old age.

c. Personality may be influenced by : (a) heredity, (b) environment (parenting styles, peer groups, social interactions, early childhood experiences, life events, support available in a community etc.)

d. The role of social norms in personality development. Deviant personalities : (juvenile delinquency in childhood and anti-social personalities in adulthood)

UNIT-V Marriage

a. Marriage as an institution : goals, rituals, functions, changes and challenges.

b. Mate selection : factors influencing, considerations of exogamy and endogamy, changing trends, arranged and personal choice of mates.

c. Preparation for marriage, social emotional issues, financial concerns and exchanges, guidance and counseling.

d. Marital adjustment, areas and factors influencing, planned parenthood.

Families with Problems

a. Families with marital disharmony and disruption, dimension, casual factors.

b. Families in distress, violence and abuse, dowry victimization, violence against women.

Interventions for Families in Trouble -

a. Scope, needs and assessment

b. Counselling premarital and marital

c. Welfare and rehabilitation policies and programmes

d. Public awareness and education programmes

PRACTICALS

Production to Human Development and Family Dynamics

1. Visit to a paediatric ward to observe a new born body and a prematur baby.
2. Preparing a growth average height weight chart of five (5) children from one to (1-3) years.
3. Study of immunization schedule.
4. Survey of parents regulative awareness about weaning food, toys ; clothes.
5. Preparation of body Kit- Baby carry bag, bib, Jhabla.

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PAPER - IV
INTRODUCTION TO TEXTILES & CLOTHING (Paper Code-0556)

Marks : 50

FOCUS :

(A) Variety in clothing depends on variety in textiles. Though very few textiles were known to man earlier, presently, he is seeing newer textiles each one superseding the other. Their performance is also varying. IT is essential for a student to have some basic knowlege of these textiles to select the right king of fabric for a specific end use.
Clothing is important for protection, comfort, personality and growth in relevant age groups. The course should be dealt with, keeping in view the activities of the concerned age group with consideration for safety, ease of care and comfort.
Clothing is important for protection, comfort, personality and growth in relevant age groups. The course should be dealt with, keeping in view the activities of the concerned age group with consideration for safety, ease of care and comfort.

(B) **OBJECTIVES :**

To enable students to -

1. To acquaint with proper notion regarding choice of fabrics.
2. To develop skills in clothing construction.
3. Acquaint with the different textiles and their performances.
4. Impart knowledge on different textile finishes.

OBJECTIVES :

1. To acquaint with proper notion regarding choice of fabrics.
2. To develop skills in clothing construction.

UNIT-I Classification of Textiles :

a. Introduction to and classification of textiles, Terminology in textiles
b. History, composition, types, production, properties and uses - Cotton, Linen, Wool, Silk, Rayon, Polyamide, Polyester and Acrylic fibres.

UNIT-II Study of Yarns :

Methods of spinning, making of spinning, making of sewing thread, simple, novelty, metallic and texturised yarns, stretch, corespun, bi and multi component yarns - characteristics. Yarn numbering systems (Cotton count, Denier, tex-conversion from one to the other).

UNIT-III Finishes

a. Physical - Singeing, napping, brushing, shearing, sizing, shrinking, tendering, calendarings, etc.
b. Chemical - bleaching, mercerizing, etc.
c. Special purpose finishes - wrinkle resistant, water resistant and repellent, flame retardant, durable press, soil release and resistant, antipiling, dyeing and printing, etc.

UNIT-IV Equipment

Equipment and supplies used in clothing construction, their maintenance, problems faced, remedies with specific reference to sewing machine.

Selection of Fabrics

Factors influencing selection of fabrics, budget, age, season, occupation, figure, fashion, occasion etc.

UNIT-V Principles of Clothing Construction :

General Principles of clothing construction. Drafting and making paper patterns. Taking body measurements for different types of garments. Preparation of fabrics for garment making. Laying out of patterns, cutting and marking.

PRACTICALS

1. Identification of Textile Fibres
   Visul, MIcroscopic, burning and chemical
2. Identification of Yarn types
3. Identification of weaves and their variations
4. Sample collection for weaves and finishes and Identification
5. Sewing Techniques
   Sewing techniques : Basic stitches, seams and seam finishes, fullness, placket, fasteners, simple collars.
6. Garment Construction
   Drafting, cutting and stitching of simple garments, such as vest and bib. A-Line Dress and knickers. Sun suit/romper.

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PAPER - V

COMMUNITY DEVELOPMENT PERSPECTIVE AND APPROACHES SOCIO ECOMONIC ANALYSIS OF COMMUNITIES (Paper Code-0557)

Marks : 50

FOCUS :

The focus of the course is on the evaluation of approaches to community development in general and in our country in particular. The course focuses on the structure of rural and urban communities, the systems comprising of interacting structures and interlocking of these to form the existing society. It will also indicate the relationship of social change to changes in the structures and systems that exist. It is expected to help students to orient themselves to be part of the development process.

OBJECTIVES : To enable students to

1. Be aware of the approaches to development

2. Develop faith in the capacity of the people to take responsibility for their own development.
3. Understand the existing support structures for development efforts.
4. Under stand the role of non Govt organizations in community development.
5. Understand the socio - economic structures and systems that make up the rural and urban communities.
6. Understand the meaning of social change through development plans and programs in the context of the exiting socio-economic structures and systems.
7. Recognise one's own role in the development process.

UNIT-I Development :

a. Definitions, types - large scale and centrally planned and small scale and locally planned.
b. Goals, the purpose of developmet - processes of development - the input process and social action process.

Historical Perspective of Development Approaches :

a. The Capitalistic approach.
b. The welfare approach
c. The Gandhian approach
d. The modernisation approach
e. The institutional and social justice approach

Critical Development Issues :

a. Massive poverty
b. Food security

Community Development in India :

a. Evolution of community development programme in India since Independence.

UNIT-II **Support structures and their Functions :**

a. Central Social Welfare Board
b. State Social Welfare Board
c. National Level Voluntary Agencies such as CAPART, KVIC.
d. Elected Panchayats.

Community Development Programme Approaches :

a. Multi-purpose
b. Target group
c. Growth centred
d. Area
e. Minimum needs
f. Antyodaya
g. Integrated.

Home Science and Community Development :

Scope of Home Science Extension for meaningful participation in community development in India.

UNIT-III **Introduction to Social Structures and Systems-Framework for Analysis -**

a. Meaning and Systems of Organisation
b. Relationship between Social Systems
c. Types of Society - Harmonic - Disharmonic

Analysis of Family as a Social Unit -

Type(s), average size (Micro/Macro), marriage, distinct social roles and nature of ralationships between members of the family; internal distinction in authority based on age and sex roles, gender differences with reference to activities and access

to resources. Emerging patterns of familial organisation influenced by broader economics and political forces - female headed households.

Analysis of Social Relations of Groups Social Stratification - Caste System (Micro/Macro)

Differential ranking of groups as superior and inferio caste-groups; changes that have taken place/expected; abolition of untouchability, inter-caste collaboration, fusion of sub-castes; impact of reservations; social inequalities - extent of acceptance or opposition.

UNIT-IV **Poverty Analysis (Micro/Macro)**

The number and proportion of poor (in general and with reference to gender in particular) prevalence of hunger and malnutrition, availability and accessibility to drinking water and sanitation facilities, health facilities, clothing and housing facilities, education facilities. Unemployment pattern and indebtedness; causes of poverty and inequalities; programs for poverty alleviation. Poverty line.

Social Relations in Religion and Culture (Micro/Macro)

a. Religions represented - the role of religion in the lives of people.
b. Popular expression of beliefs and attitudes that promote fatalism or confidence in themselves.
c. Religious and cultural customs and organisational opatterns that oppose the values of social justice, equality, liberty and solidarity.

UNIT-N **Analysis of Social Relation to Environment (Micro/Macro)**

a. Customs, mores, rules, regulations that are eco-friendly and that are not eco-friendly.
b. Changing patterns of production and consumption-organic farming, soil and water conservation measures, recycling of wastes, use of bio-degradable articles etc., impact of these in the communities.

Gender Analysis -

a. The concept of Gender as distinct from sex.
b. The division of labour.
c. Access and control of resource.
d. Changes in the means of gaining access to resources.

Approaches and Methods of Socio-Economic Analysis -

a. Rapid Rural Appraisal
b. Participatory Rural Appraisal
c. Surveys, case studies, observation
d. Participant observations

PRACTICALS

Field Experience in Village(s) / Urban Slums

a. Practical use of RRA / PRA Methods
b. Reporting on Socio-economic analysis of the rural / urban community
c. To select, Plan, preparation & use of different-audio visual aids.,
aids, i.e.
Chart - Educational, Tree Chart, Flow.
Chart., Suspense Chart.
Posters - Cartoons Pemphlets Puppets.
d. Conduct of survey based on Unit IV & V of Theory Papers. (any two)
e. Organising group demonstration.

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Alvinyso (1990) : Social Change and Development, Madras, Sage Publications Pvt. Ltd.
Subramaniya, K.N. (1988) : Economic Development and Planning in India, New Delhi, Deep and Deep Publication.
Desai, Vasant (1990) A Study of Rural Economics - Systems Approach, New Delhi, Himalaya Publishing House.
Agarwal A.N. (1985) : Indian Economy PRoblems of Development and planning, Madras, Wiley Eastern Ltd.
Mann, Peter H. (1985) : Methods of Social Investigation, Basil Blackwell.
Oakley, Peter and David, Marsden (1984) : Approaches to Participation in Rural Development - Published on behalf of the ACC TAsk Ferce of Rural Development, Geneva, International Labour Office.

JOURNALS :

Changing Villages, PPS Gussain for Consortium on Rural Technology, D-320 Laxmi Nagar, New Delhi - 110 092.
Journal or Rural Development, The National Institute of Rural Development, Rajendranagar, Hyderabad - 500 029.
Social Welfare, Central Social Welfare Board, Samaj Kalyan Bhavan, B-12, Tana Crescent, Institutional Area, South of IIT, New Delhi- 110 016.
KUrukshetra, Director, Publications Division, Ministry-of I & B, Government of India, Patiala House, New Delhi - 110 001.
Yojana, Director, Publication Division, Patiala House, New Delhi - 110 001.

REFERENCES :

1. Rogers, Alan (1992) : Adults Learning for development, Cassette published in association with Education for Development, London.
2. Descrochers, John (1998) : India's Search for Development and Social Justice. Analysis of india Society - 1. Development Debate, Centre for Social Action. Bangalore, India.
3. Duarate, Barreto (1984) : India's Search for Development and Social Justice L Analysis of Indian Society - 2. Indian Situation Centre for Social Action, Bangalore, India.
4. Statey John (1982) : People in Development : A Training Manual for Groups, SEARCH, Bangalore india.
5. Desai, John (1982) : Rural Development (Volumes 1-6) : Programs and Strategies,

Himalaya Publishing House, Bombay.
6. Patnayak, Rama (1990) : Rural Development in India, Anmol Publications, New Delhi.
7. Reddy A. (1987) : Extension Education. Sri Lakshmi Press, Bapatla.
8. Baidyanath, Misra (1991) : Poverty, Unemployment and Rural Development, Himalaya Publishing house, Bombay.
9. Devadas, Rajammal P. (1980) : Text-book of Home Science, NCERT, New Delhi.

PAPER - VI

PERSONAL EMPOWERMENT & COMPUTER BASIC (Paper Code-0558)

Marks : 50

FOCUS :

This course is designed to create awareness and understanding of the need for empowerment and motivating the student towards higher goals and challenges of self-improvement. The focus is on the adolescent moving towards making choices, developing competencies and skills for handling responsibilities of self-growth and interpersonal relationships in personal and professional spheres. The thrust of this course must be in the Indian context, creating pride in and respect for cultural heritage and values. The teaching approach should be truly a "facilitator" - convinced and committed to the cause of empowerment of youth.

The Purpose of inclusion of this course must be viewed as "offering opportunities, motivation, information and skills" for enhancing the total outlook (perspectives) of the young student particularly girls. Hence the thrust is on development, women and the concept of Home Science education as holistic education with interface (and intergration) of professionalism and qualitative development of individuals and families.

The teacher (facilitator) for this course must share such an outlook and be oriented towards the same to be really effective. Also the typical examination oriented approach should be replaced by promoting dynamism, visionary zeal and motivational ethos in the classroom.

This course is designed to give basic inputs to students on Computers and their functioning and hands-on experience.

The awareness of the basic applications of computers as the tool for education, information and research is to be created and emphasized. The teaching learning process should include demonstrations and hands-on experience for all the students.

Individuals, families and community.

OBJECTIVES :

The student will

1. become aware of the need, competencies and skils to be developed for empowerment and be motivated for self improvement/self-enhancement.
2. become aware of the role of empowerment of women from the perspectives of personal and national development.
3. become aware of the interdisciplinarity of Home Science education and its potential for personal and professional enhancement.
4. become sensitized to some pertinent contemporary issues that affect the quality of life of individuals, families and community.
5. know the basics of computers;
6. to be able to use computers for education, information and research.

NOTE : Practical based and participatory teaching-learning methodology to be utilized : not conventional lectures. Dynamism on the part of the teacher is essential for successful outcome of the course.

THEORY :

UNIT-I Personal Growth and Personality Development
(through exercises, role play, discussions)

a. The challenge : understanding and managing oneself : being aware of one's strenghts and weaknesses.
b. Personality Development : Factors and influences : emotional and motivational aspects; assertion vs. aggression.
c. Peer pressures : Issues and management; group conformity and individualism as co-existing aspects.
d. Conflicts and stresses, simple coping strategies.
e. Adjustment amd readjustment to changing needs and conditions of contemporary society (technological changes, social changes, changes in values).

UNIT-II Empowerment of Women

a. Women and Development : The personal, familial, societal and national perspectives.
b. Capacity building for women : Education, decision-making abilities and opportunities, awareness and information on legal and political issues.
c. Women's organizations and collective strength : Women's action groups, women's participation in development initiatives.
d. Study and discussion of life histories, case studies of illustrious Indian women from different walks of life (eg. Indira Gandhi, Jhansi ki Rani, Medha Patkar, Kiran Bedi, Vijayalaxmi Pandit, Sudha Chandran, Anutai Wagh, Ila Bhat, Bhanvari Devi).
Brief sketches/ profiles of women's organization and collective and activist efforts to improve the quality of life or tackle issues of concern (e.g. SEWA, Women's co-operaatives, WIT).

Note : Students must be sensitized and made aware through assignments to identify and study the contributions of women in their own regional areas as also in the context of national perspectives. Cases of individual and collective / organized women's strengths must be discussed with examples from local / regional / levels. Each student may prepare profiles of one individual and one collective group.

UNIT-III Home Science Education as Empowerment

1. The interdisciplinarity of Home Science Education.
2. The role of Home Science Education for personal growth and professional development.
3. Home Science as holistic education with integration of goals for persons, enhancement and community development.

UNIT-IV Some Significant Contemporary Issues of Concern

a. Gender issues : inequities and discriminations, biases and stereotypes; myths and facts.
b. Substance abuse : Why and how to say no.
c. Healthy Habits : In relation to physique, to studies, to heterosexual interests.
d. AIDS : Awareness and education.

Note : Teachers/facilitators must be knowledgeable and equip themselves sufficiently; orientations/training sossions for tacilitatory .....

UNIT-V Computer Fundamentals :

a. OVerview about computers
b. Components of a computer
c. Input/output devices

d Secondary storage devices
e Number Systems : Decimal, Binary, Octal, Hexadecimal
f Representation of information : BCD, EBCDIC, ASCII
g Representation of Data : Files, Records, Files
h File organization and access
i Security and safely of data
j Introduction to Operating Systems

REFERENCES :

1. Adair, J. (1992) : The action Cenytrod Loaders, Bombay, Jaico Publishing House.
2. Antony, M.J. (1989) : Women's Rights, New Delhi, Hind Pocket Books Pvt. Ltd.
3. Bhattacharya, R. (1987) : Career Management : A NEw Challenge, Vol. I, New Delhi Enkg.
4. Chandrashekhar R. (1992) : (Ed) Women's Resource and National Development - A Perspective, New Delhi; Gaurav Publishing House.
5. Chandra A.A. Shah and U. Joshi (1989) : Fundamentals of Toaching Home Science, New Delhi; Sterling Publishers Pvt Ltd.
6. Feldman, R. (1987) : Understanding Psycholoty, New York; McGraw Hill Co.
7. Forham, A. (1995) : Why Psychology, London : University College, London Press Ltd.
8. Gore, M.S. : Indian Youth; Frocesres of Socialization New Delhi, Vishwa Yuvak Kendra.
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10. Gupta J.L. (1988) : Challenges to the Fair Sex - Indian Woman : Problems, Plights and Progressos.
11. Hatcher, J.M. and Halchin, C. (1973) : The Teaching of Home Economics, Boston : Houghton mifflin Co.
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13. Kakkar, S. (1997) : Identity and Adulthood, Bombay Oxford Press.
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15 Rathur, S. and Brid, J. (1983) : Adjustment and Growth : The Challange of Life New York : C.B.S. College Publishing Co.
16. Singh H.N. (1992) : Sky is the Limit : Practical Guids Lines on Effective Caareer Planning, Bombay : Bombay Schandra Publications.
17. Sargent, A. (1995) : How to Motivate People : Turning People On, Bombay : Jaico Publishing House.
18. Verma, N. (1986) : Leadership Styles in Interpersonal Perspective, Delhi : B.R. publishing.

Note : Suggested References unit-wise are as under :

For Unit - I : Ref. 1, 3, 6, 7, 8.
For Unit - II : Ref. 2, 4, 9, 10, 17, 18.
For Unit - III : Ref. 11, 12, 5.
For Unit - IV : Ref. 1, 8, 18, Newspapers and Magazines.

PAPER - VII
PRACTICALS - COMPUTER BASICS

1. a Introduction
   b Exploring the Desktop
   c Running multiple programmes
   d Accessories

e. Control Panel
f Managing Documents and Folders

2. MS Word

a. Starting MS-WORD
b. Creating and Formatting a document
c. Changing Fonts and Point Size
d. Table Creation and operations
e. Autocorrect, Auto Text, Spell Check, Thesaurus
f Word Art, Inserting objects
g. Mail merge, letter, label, envelope
h Page set-up, Page preview
i Printing a document

3. MS-Excel

a. Starting Excel
b. Work Sheet, Cell, Inserting Data into Rows/Columns
c. Alignment, Text-wrapping
d. Sorting data, Auto sum
e. Use of functions, referencing formula cells in other formulae
f Naming cells and ranges, Goal seek
g. Generating graphs
h Integrating Worksheet data and charts with WORD
i Creating Hyperlink to a WORD document
j Page set-up, Print Preview, PRinting Worksheets.

4. Internet

a. Genesis and use of Internet
b. Software and hardware tequirments for Internet
c. Accessing the Internet, Web Page, Unsing a Search Engine, Accessing the Internet from MS-Office applications

REFERENCES :

1. Subramaniam, S. : Introduction to Computers.
2. Norton Peter : Introduction to Computer.
3. Nagpal, D.P. : Mastering Microsoft OFFICE 2000

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MARKING SCHEME OF B.SC (HOME SCIENCE) PART - II

Group No.	Paper No.	Subject	Theory M.Marks	Practical M.Marks	Theory M.Marks	Practical M.Marks
I	(A)	Enviromental Studies Fild Work Foundation Course	75 25		33	
	(B)	English Language	75		26	
	(C)	Hindi Language	75		26	
I	(A)	Nutritional Management in Health and Diseases	50	25	33	09
	(B)	Textile and Laundry Science	50	25		09
III	(A)	Community Nutrition and Applied life Sciences	50	25	33	09
	(B)	Communication Process	50	25		09
IV	(A)	Life Span Development	50	25	33	09
	(B)	Consumer Economics	50	25		09

B.SC (HOME SCIENCE) PART - II

DISTRIBUTION OF MARKS IN VARIOUS PRACTICALS

No.	Name of the Practical	Total Marks	Distribution			Marks
			Sessioned	Viva	Practical	
01.	Nutritional Management Health & Diseases	25	05	05	Planning Cooking + Presentaion	08 07
02.	Textile and Laundry Science	25	05	05	Stain Removal Tie & Dye Printing	05 05 05
03.	Community Nutrition and Applied life Sciences	25	05	05	Spotting Blood Practicals	10 05
04.	Communication Process	25	05	05	Preparation of Audio Visual Aids - 2	15
05.	Life Span Development	25	05	05	Practical	15
06.	Consumer Economics	25	05	05	Practical	15

बी.ए./बी.एस-सी./बी.काम./बी.एच.एच-सी.

भाग - दो, आधार पाठ्यक्रम

प्रश्न पत्र - प्रथम (हिन्दी भाषा) (पेपर कोड-0571) **पूर्णांक - 75**

खण्ड-क निम्नलिखित 5 लेखकों के एक-एक निबंध पाठ्यक्रम में सम्मिलित होंगे - अंक-30

1. महात्मा गांधी - सत्य और अहिंसा
2. विनोबा भावे - ग्राम सेवा
3. आचार्य नरेन्द्र देव - युवकों का समाज में स्थान
4. वासुदेव शरण अग्रवाल - मातृ-भूमि
5. भगवतशरण उपाध्याय - हिमालय की व्युत्पत्ति
6. हरि ठाकुर - डॉ. खूबचंद बघेल

खण्ड-ख हिन्दी भाषा और उसके विविध रूप अंक-20

- कार्यालयीन भाषा
- मीडिया की भाषा
- वित्त एवं वाणिज्य की भाषा
- मशीनी भाषा

खण्ड-ग अनुवाद व्यवहार : अंग्रेजी से हिन्दी में अनुवाद अंक-25

हिन्दी की व्यवहारिक कोटियाँ-

रचनागत प्रयोगगत उदाहरण, संज्ञा, सर्वनाम, विशेषण, क्रिया विशेषण, समास, संधि एवं संक्षिप्तियां, रचना एवं प्रयोगगत विवेचन ।

PAPER - II

ENGLISH LANGUAGE (Paper Code-0572) M.M.-75

The question paper for B.A./B.Sc./B.Com./B.H.Sc., English Language and cultural valuers shall comprise the following units :

UNIT-I Short answer questions to be assed by (Five short answer questions of three marks each) 15 Marks

UNIT-II (a) Reading comprehension of an unseen passage 05 Marks
(b) Vocabulary

UNIT-III Report-Writing 10 Marks

UNIT-IV Expansion of an idea 10 Marks

UNIT-V Grammar and Vocabulary based on the prescribed text book. 20+15 Marks

Note : Question on all the units shall asked from the prescribed text which will comprise specimens of popular creative/writing and the following it any

(a) Matter & technology
  (i) State of matter and its structure
  (ii) Technology (Electronics Communication, Space Science)
(b) Our Scientists & Institutions
  (i) Life & work of our eminent scientist Arya Bhatt. Kaurd Charak Shusruta, Nagarjuna, J.C. Bose and C.V. Raman, S. Rmanujam, Homi J. Babha Birbal Sahani.
  (ii) Indian Scientific Institutions (Ancient & Modern)

Books Prescribed :

Foundation English for U.G. Second Yaer - Published by M.P. Hindi Granth Academy, Bhopal.

GROUP - II

PAPER - A **M.M. 50**

NUTRITIONAL MANAGEMENT IN HEALTH & DISEASES (Paper Code-0573)

Focus : The course encompasses the various stages of the life cycle and how nutrition is critical at various stages. It briefly familiarizes students with the role of nutrition in common elements.

Objectives : This course will enable to students to -

1. Understand the concept of an adequate diet and the importance of meal planning.
2. Know the factors affecting the nutrient needs during the life cycle and the RDA for various age groups.
3. Grain knowledge about dietary management in common ailments.

THEORY

UNIT-I **Definition of Health & Nutrition**

Dimensions of Health (Physical, Psychological emotional & Spiritual)

Energy Requirements - Factors affecting energy requirements

BMR, Activity, age, climate, diet - induced thermogensis (SDA physiological conditions.

concept of nutritionally adequate diet and meal planning

(a) Importance of meal planning

(b) Factors affecting meal planning

- Nutritional, Sociocultural, Religious, Geographic, Economic Availability of time.

UNIT-II Nutrition through the life cycle -

(at different activity and Social economic levels) requirements, nutritional problems, food selection.

(a) Adulthood

(b) Pregnancy

(c) Lactation

(d) Infancy

(e) Pre-School

(f) Adolescence

(g) Old age

UNIT-III Principles of diet therapy

(A) Modification of normal diet for therapeutic purposes, full diet, soft diet, Fluid diet, Bland diet.

Energy modification and Nutrition for weight management-

Identifying the over weight and obesectiological factors contributing to obesity, Prevention & treatment, low energy diets.

Under weight - aetiology and assessment, high energy diet.

Diet for Febrile conditions & surgical condition.

Nutritional Anaemia

Fevers - Typhoid

UNIT-IV Etiology, Symptoms & diet management of the following -

Diarrhoea, Constipation, Peptic uicer, Jaundice, Viral Hepatitis, Cirrhosis, Arthrities, Gout.

UNIT-V Diet in disease of the endocrine -

Pancreas - Diabetes mellitus - classification, symptoms, diagnosis, Dietary case & Nutritional, management of diabetes mellitus. Insulin Therapy, Oral Hypoglycemic

agents, special dietetic food, sweetness & sugar substitutes, Diabetic coma, Junvenile Diabetes.
Diseases of the cardiao vascular system -
Atherosclerosis Etiology & Risk Factors.
Hypertension - Etiology, prevalence Nutritional management & prevention.
Renal diseases - Etioloty, characteristic,
Symptoms & Dietary management of Glomesulonephritis Acte & Chronic

REFERENCES :

1. Krause, M.V. and Mohan, L.K. 1986 : Food, Nutrition and Diet Therapy, Alan R. Liss, Saunders Co., London.
2. Passmore, R. and Davidson, S. 1986 : Human Nutrition and Dietetics, Livingstone Publishers.
3. Robinson, C.H., Laer, M.R. Chenoweth, W.L. Ganwick, A.E. 1986 : Normal and Therapeutic Nutrition, MacMillan publishing Company, New York.
4. Williams, S.R. 1989 : Nutrition and Diet Therapy, 4th Ed., C.V. Mosby Co.
5. Shils, M.E. Olson, J. A. Shike, M. Eds. 1994 : Modern Nutrition in Health and Disease, 8th edn., Lea and Febiger a Waverly Company.

PRACTICALS

Planning & Preparation of Normal and Therapeutic diet in relation to special nutrient requirements (Any 15)

1. Adult
2. Pregnancy
3. Lactation
4. Constipation
5. Diarrhoea
6. Obesity
7. Under weight
8. Peptic Ulcer
9. Jaundice
10. Viral Hepatitis
11. Cirrhosis
12. Acte glomerule nephritis
13. Chronic glomerule nephritis
14. Diabetes melitus
    (i) With Insulin
    (ii) Without Insulin
15. Hypertension
16. Atherosclerosis
17. Anaemia

GROUP - II

PAPER - B **M.M. 50**

TEXTILE & LAUNDRY SCIENCE (Paper Code-0574)

UNIT-I Introduction,
Classification and Introduction to Laundry process
(i) Wet and
(ii) Dry cleaning
Materials and equipment in laundry
Water- Hard & Soft water

Temporary and permanent hardness. Problems caused by hard water. Methods of softening water.
Soaps and Detergents - Definition, Chemical nature, manufacture, Properties and their cleaning action.
Balance - Classification commercial Products, application of bleaches to various fibre fabrics.

UNIT-II Additives used in laundry
Optical brightness blueing agent vs. flourescent whiteness.
Starches, Stiffenings and Softners
Various types and their characteristics, method of application.
Additional laundry Agent
Acidic, alkaline and others.
Principles of Laundernig
Hand washing methods, types & uses.

UNIT-III Dry Cleaning
Technology - agents - classification
Stain Removal
Classification of stains, Principles of removal. Types of stain remvals.
Techniques of removal,
Preservation and storage
Apparel & household linen.
Disinefection of cloths
A brief study of different types of dyes and their applicability to different fibres.

UNIT-IV Difference between dyeing and printing, methods of dyeing.

UNIT-V Style of dyeing - Direct, resist and discharge styles involving varying dyed effects.
Fibre, yarn and fabric dyeing.

PRACTICAL'S - (ANY EIGHT)

Printing - Block, screen, tie & die, stencil printing.

1. Stain Removal
2. Laundering of cotton, rayon silk wool & synthetics etc.
3. Bleaching & whitening
4. Starching
5. Care of household linen
6. Simple dyeing of different fabric.
7. Tie and Dye techniques
8. Batik
9. Finishing of fabric before dyeing & printing, Scoring, bleaching, Desizing.

REFERENCE :

Course : Introduction to Fashion Illustration

1. Tate, S.L., Edwards, M.S. 1987 : The complete Book of Fashion Illustration, New York, Harper & Row Publications, 2nd Edn.
2. Allen, Anne & Seaman, Julian : Fashion drawing : basic principles, B.T. Batsford, London, 1993, 108p.
3. Bames Colin : Fashion Illustration, Macdonald, 1988.
4. Chowdhry, Sonia : A Unique phenomenon : understanding the dynamics of fashion, Clothesline 11 (11) Nov. 1998 p. 75-77
5. Ewing, Elizabeth : History of twentieth century fashion, Elizabeth Ewing, London, 1974, XI, 300P.

6. Ireland John Patrick 1976 : Drawing and Designing Men's Wear, London B.T. Brandford Ltd.

UNDERGRADUATE HOME SCIENCE

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8. Patric John Ireland : Introduction to Fashion Design, B.T. Batsfond, London.
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UNIT-V Introduction to use of different laboratory dyeing machines -

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2. Faulkher Ray & Faulkner Sarah 1975 : inside Today's Home, Rinehart & Winston.
3. Gohl & Vilensky 1987 : Textile Science, Delhi BCS, Publishers & Distributors.
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5. Pandit Savitri and Patel Saroj 1970 : Tie and Dye and Batik techniques for all, Baroda, Faculty of Home Science.
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8. Story Joyee 1974 : The Thames and Hundon, Mannual of Textile Printing, London, Thames & Hudson Ltd.
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GROUP - III

PAPER - A **M.M. 50**

COMMUNITY NUTRITION & APPLIED LIFE SCIENCES (Paper Code-0575)

UNIT-I An Introduction of physiology & Anatomy

A. Structure & Functions of cell & Tissues

B. Cardiovascular System

- Blood and it's composition & Functions
- Coagulation of blood
- Blood group
- Structure and functions of Heart, Blood vessels
- Heart rate, Cardiac output blood pressure and it's regulation
- Circulation of Blood

C. Musculo skeletal System

- Types of muscles, functions
- Skeletal System, Structure and types of Bone

UNIT-II Gastrointestinal System

- Structure and functions of various organs of the GI Tract.

* Digestion & absorption of food.

Nervous System

* Elementary Anatomy of Nervous System
* Functions of different part of the brain and Spinal cord.
* Autonomic, Sympathetic & Parasympathetic nervous system.

UNIT-III Excretory System

* Structure & Functions of Kidney, bladder, formation of urin.
* Structure & Functions of Skin.
* Regulation of temperature of the body.

Respiratory System

* Structure of lungs
* Mechanism of respiration and it's regulations
* O_2 and CO_2 transport in blood.
* Vital capacity and other volumes

UNIT-IV Reproductive System

* Structure and functions of Male & Female reproductive organs.
* Physiology of pregnancy, parturition, Lactition and menopause.
* Special sense organs structure & Functions.

UNIT-V Concept and scope of community nutrition

A. Nutritional problems of the community and implications for public health.
   * Common problems in India.
   * Causes (Nutritional and non nutritional)
   * Incidence of nutritional problems, signs and symptoms treatment.

B. Schemes and programmes to combat nutritional problems in India.
   * Prophylaxis programmes.
   * Mid day meal programme.
   * ICDS

C. Hazard to Community Health and Nutritional Status.
   * Adulteration in food.
   * Pollution of water.

REFERENCES :

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11. Kochar, S.L. 1981 : Economic Botany in tropics, Macmillan, India.
12. Hartmann, H. and Kester, D.E. 1993 : Plant Propagation principles and Practice, New Delhi, Prentice Hall of India (Pvt.) Ltd.

PRACTICALS (ANY SIX)

1. Preparation of chart's of different systems.
   (Part of human baby)
2. Identification of Bones.
3. Recording pulse rate.
4. Measurement of Blood Pressure.
5. Preparation of temperature chart.
6. Bleeding time.
7. Clotting time.
8. Study of Histological slides of different organs.

GROUP - III
PAPER - B

COMMUNICATION PROCESS IN DEVELOPMENT (CORE) (Paper Code-0576)

Code 21003 **Cr : T 2 + PI** **Pd/Wk : 2 + 2** **Mark : 50**

Focus : The course focuses on the process of communication, especially in development work in rural and urban areas.

Objectives : To enable students to -

1. Understand the process of communication in development work ;
2. Develop skills in the use of methods and media ; and
3. Be sensitive to the interests and needs of the people and the power of the media and methods in catering to these needs and interests.

THEORY

UNIT-I Concept of development communication (3)

* Meaning and importance of communication in development
* The purpose of communication
* Existing patterns of communication
* Factors that help or hinder communication

UNIT-II Communication Precess (3)

* One-way and two-way or interactive communication
* Gaps in communication or distortions in transmission of message and their causes
* Importance of two way communication
* Basis for effective, interactice communication.
* Attitude of 'respect for others'

UNIT-III Methods of communication in Development Methods to reach individuals (10)

* Personal conference
* Interviews
* House visits
* Exhibits
* Methods to reach small groups
* Illustrated lecture
* Group discussions
  - Fish Bowl
  - Small group
* Co-operation

UNIT-IV

* Role Plays
* Demonstrations
* Workshop

* Camps
* Radio announcements/programs
* Newspaper stories
* Posters
* Videos, films
* Television programmes
* Letters, folders or pamphlets
* Public meetings

UNIT-V Media for development communication (12)

* Folk media
* Songs
* Stories
* Street-theatre
* Games
* Arts
* Puppet play
* Print Media
* Posters
* Pamphlets, leaflets
* Newspapers - articles, stories
* Periodicals - articles, stories, songs
* Books
* Cartoons
* Audio/Visuals, Audo-Visual Media
* Audio-tapes, radio broadcasts
* Slides, pictures, drawings, photographs etc.
* Videos, telecasts
* Films-documentary, feature

PRACTICALS (ANY SIX)

1. Organising group discussion.
2. Organising group demonstration.
3. Preparation & Presentation of Audio visual aids, i.e. Posters, Charts, Cartoons, Models Puppets.
4. Problem/need identification of a community.
5. Planning an educational programme.
6. Evaluation of the effectiveness of methods and media.
7. Visit to Radio Station/T.V. Centre/Printing Press.
8. Preparation of Drama based on Social Development.

GROUP IV

PAPER - A (Paper Code-0577)

LIFE SPAN DEVELOPMENT, METHODS AND MATERIAL FOR YOUNG CHILDREN

Code 24104 + 24105 Cr T5 + P2 Pol/Wk 5+4 Marks-50

Focus : This course covers the entire life span and traces the various developmental stages. Its encompasses in scope development in utero, infancy up to senesence identifying critical concerns in Socio-cultural perspectives.

To develop understanding of various methods and materials, which can be used while

working with children. The emphasis is on promoting creativity and use of different materials to allow for optimum development.

Objectives : To become acquainted with developmental stages from birth to old age.

1. To develop awareness of important aspects of development during the whole life span.
2. To know the reqDon Welers (1974) : uirement of infants and fodders and develop skills to create play materials and designing learning experiences.
3. To understand the significance of various creative activities and teachers role in implementry them.

Note : For each of the following stages of development, the influence and inter-actions of sociocultural and environmental factors needs to be discussed.

LIFE SPAN DEVELOPMENT, METHODS AND MATERIALS FOR YOUNG CHILDREN
Code : 24104 and 24105

UNIT-I

1. Life Span development and need to study development through the life cycle. Inter-relationship between the aspects of development.
2. Prenatal Period - Review of prenatal development.
3. Infancy (0 to 2 years) and childhood period (2 to 12 years) - Definition, Characteristics and Developmental tasks. Review (2-6 yrs to 6-12 yrs) of different developmental areas (Physical, motor, Social, emotional, intellectual sensory and perceptual development) cognition piaget) significance of preschool education, importance of play (for all round development) peer group and school.

UNIT-II Adolescence (13 to 18 years)

1. Definition, Developmental tasks.
2. Physical Development - Puberty, growth, spurts, Primary and Secondary sex characteristics, early and late maturing adolescents.
3. Identity - Definition, body image, positive and negative outcomes (Role confusion, ego-identity)
4. Heightened emotionality- Meaning causes, expression characteristics of emotional maturity, conflict with, authority coping up strategies.
5. Problems - Drug and alcohol abuse, psychological breakdown (Behaviour) STD and AIDS, Pregnancy.

UNIT-III Adulthood (19 to 60 years) and ageing- (Early adulthood 19 to 40 years) Definition and characteristics Development tasks, significance of the period, reponsibilities and adjustment - New family, parenthood, independence, financial moters.

1. Middle Adulthood (41 to 60 years), Definition, physical changes (senses, diseases-Transitation Period.
2. Menopause- Health issues.
3. Stresses in middle age, coping with stress to family.
4. Preparation for retirement.

Late Adulthood and Ageing - Definition

1. Physiological changes, and health problems.
2. Retirement-effect of retirement on self family, society financial problems faced.
3. Recreational interest of the aged.
4. Issues- Old age homes, loneliness, living in joint family, prolonged illness. (Plan visit to old age homes)

UNIT-IV Infancy and Toddlerhood (Emotional Aspect)

1. Importance and ways of meeting child psychological needs to promote feeling

of security, trust and acceptance.

Activities according to developments for various age groups.

(A) 0-6 months - Activities for simulating and sessions motor experiences with emphasis on seen, hearing, touching, feeling sensation and movements.

(B) 7 to 12 months - Integration of experiences involving more than one sense to deeper sensory motor experiences promotic manipulation, concept formation, communication and perceptual divtiminsyion.

(C) 13 to 24 months - Promotion of co-ordination and control of body movements, gross and fine motor skills. Strengthening concept formation, imagination and communication through language promotion of problem solving, environment to explore and satisfy curiosity and develop confidence.

(D) 25-36 months - Improvement in body movement and communication skills, social skills concept formation.

UNIT-V Creativity

* Concept of creativity and highlights of the role of creative expressions in overall development of children.
* Creative expressions, Meaning and definition of creativity expressions.
* Role of teacher in planning and fostering creative expressions.
* Creative expressions through a variety of media i.e. painting, Printings.

Art Activities (8)

* Painting and graphics
  - (a) Painting with brush, drawing with crayons, chalk, rangoli on floor, finger painting. (Some special characteristics of this medium)
  - (b) Values, materials required, use of substituler from indeigenous materials.
  - (c) Teacher's role in conducting activities.
  - (d) Stages in child art.
* Tearing, cutting, pasting and college, mural
  - (a) Values, materials requried and Teacher's role in conducting activities.
  - (b) Development stages.
* Printing
  - (a) Types of printing i.e. block, vegetables, string, leaf, stencils, spray, crumpled paper, different textured surfaces.
  - (b) Values, materials required techniques.

BLOCKS :

(a) Some special features of this medium.

(b) Types of blocks : hollow large blocks, unit blocks and small blocks.

(c) Stages in block play.

(d) Values, materials and accessories for block play.

(e) Teacher's role

Other materials

* Sand
  - (a) Characteristics of the medium.
  - (b) Values, materials required and teacher's role,
* Water.
  - (a) Characteristics of the medium.
  - (b) Values, materials required and teacher's role.

PRACTICALS (ANY TEN)

1. Infancy and Toddlerhood

1. A file to be prepared to list activities appropriate for age groups - 0-6 months, 7-12 months, 13 to 20 months and 25 to 36 months.
2. Students be encouraged to observe materials available in the locality, Different types of shops, tailor.
3. Develop play materials suitable for each age group.
4. List activities, which can be used for working with different age groups.

(a) 0 to 6 months.

5. Prepare materials and design activities for seeing, hearing touching and feeling.
6. Sensation and movement for soothing movements and exercises.

(b) 7 to 12 months.

7. Prepare materials and design activities for touching and feeling sensation and movement, and manipulation.

(c) 13 to 14 months.

8. Identify activities for gross motor development and prepare play materials available in the locality.
9. Prepare play materials and list activities promote manipulation sensory experiences, concepts and language.

Art Activities

10. A few suggestions are given under each category as guideline students be encouraged to explore experiment with each media and understand the characteristics of each medium.
11. Samples of each be included in the resource file which each student is expected to maintain along with description of values materials and technique used.
12. Difficulty level of each activity be considered and decide its suitability for different age groups.
    * Painting and graphics.
    * Prepare a variety of brushes from different types of brooms, cotton, wool, strips of cloth, feather etc.

Tearing cutting and pasting

13. 3-5 years
    Tearing with all fingers, tearing with thump and two fingers as used in holding pencil, tearing on straight line, curved line.
14. 6-8 years
    Tearing circular rings starting from one corner of the page till centre of page, Making designs.
15. 3-5 cutting and pasting
    Cutting a design, pasting, please of paper, cloth, sticks leaves college, mosaic Printing

Printing

16. Printing with strings, leaf, vegetable blocks, stencil printing, thumb, finger, spray painting
17. Keeping coins, leaves with veins below paper and gently colouring with crayon.

REFERENCES :

1. Berk, L.E. 1996 : Child Development, New Delhi : Prentice Hall.
2. Craig, G. 1999 : Human Development, N.J. : Prentice Hall
3. Cole, M. & Cole, S. 1995 : The Development of Children, NY Freeman & Co., Gardiner, H.W. Mutter, J.D. & Kosmitzki 1998 : Lives Across Cultures, Oston, Allyn & Bacon.

4. Lerner, R.M. & Hultsch, D.F. 1983 : Human Development : A life Span Perpective, NY, MC Graw Hill
5. Rice, F.P. 1965 : Human Development : A life Span Approach, NJ : Prentice Hall.
6. Santrock, J.W. 1997 : Life Span Development, NY Brown & Bench mark.

GROUP - IV

PAPER - B **M.M. 50**

CONSUMER ECONOMICS (Paper Code-0578)

UNIT-I Consumption Economics

(1) Meaning and definition
(2) Family as a decision making unit of house hold
(3) Consumer - definition

Measures of living and consumption

(1) Place of living
(2) Level of living
(3) Standard of living
(4) Plan of consumption
(5) Level of consumption
(6) Standard of consumption
(7) Rpce/Price level/cost of living

UNIT-II Consumer income

(1) Types of income - real, money, psychic, national income, disposable income.

Market

(1) Definition
(2) Type of market Segmentation and characteristics
(3) Functions
(4) Channels of distribution

UNIT-III Consumer in the market

(1) Consumer buying habits - Convenience goods
(2) Buying motives - Primary selective, rational emotional and totranages.

Types of Products

Advertisement, Sales, Promotion packing

Consumer Buying Problems

(1) Adulteration
(2) Faculty weights and measures
(3) Pricing
(4) Legal - guarantee and warrantee contracts, instalment buying

UNIT-IV Consumer protection services

(1) Organisations
(2) Legislation - import laws for consumer protection
(3) Consumer representation

Consumer and consumers problems

(1) Definition of consumers
(2) Choice and buying problems of consumers

Consumer Protection Law

(1) Definition of laws, Types of laws importance of law

UNIT-V (1) Consumer Decision making
(2) Factors effecting consumer decisions in the market
(3) Good buy man ship

(4) Consumer aides for decision making

Consumer rights and responsibilities

Consumer protective services

(1) Indian Standard Institution
(2) Educational Institution
(3) Consumer Co-operatives
(4) Government Agencies Municipality

PRACTICALS - PROJECTS IN ANY AREA/UNIT

(1) Selection of relevant topics.
(2) Written matter (typed 20 pages, double space, A-4 size paper).
(3) Oral Presentation of 20 minutes, by the student.
(4) Audio Visual aids to be used in presentation.
(5) Q.A. session of 10 minutes.
(6) File presentation by the student.
(7) List of reference/Source to be written in the report.

REFERENCES :

1. Lelend, J. Gordan, Stewart, M. Lee 1974 : Economics and consumer, 7th Edu., D'van Nostrand Co., New York, (Unit I, IV)
2. Don Welers (1974) : Who Buys - A study of consumer, (Unit I, IV, VI)
3. Sherlekar, S.A. 1984 : Trade Practices and Consumerism, Himalaya Publishing House, (Unit I, VI)
4. Sales Management, 5th Edu., Cunliffe Bolling, (Unit II, IV)
5. Kotler Philip, Armstrong Gary (Principles of Marketing, 5 Edu. Prentice Hall of India, New Delhi, (Unit IV)
6. David H. Bangs, Jr. : The Market Planning Guide, 3rd Edu., Galgotra Publications, (Unit IV, VII)
7. Hansen, A.T. 1951 : Business Cycles and National Income, W.W. Norton & Co. Inc. (Unit III, V)
8. Sarkar, A : Problems of Consumers in Modern India, Discovery Publishing House. (Unit VII-X)
9. Beckman, T.R. Moyard, H.H. and Davidson, W.R. 1957 : Principles of Marketing, Ronald Press, (Unit IV, VI)
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11. Cochrane, W.W. and Bell, C.S. 1958 : The Economics of Consumption, McGraw Hill.
12. Conoyer, H.C. and Vailes, R.S. 1951 : Economics of Income and Consumption, Ronald Press.

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B.H.Sc PART - III

MARKING SCHEME

Group No.	Paper No.	Subject	Theory M. Mark	Practical M. Makr	Thoery M. Makr	Practical M. Mark
I		Foundation Course				
	(A)	Hindi Language	75		26	
	(B)	English Language	75		26	
I	(A)	Nutritional Biochemistry	50	25	33	09
	(B)	Food Preservation	50	25		09
III	(A)	Early Childhood Education	50	25	33	09
	(B)	Extension Education	50	25		09
IV	(A)	Foundation of Art and Design	50	25	33	09
	(B)	Apparel Making	50	25		09
		Total	600			

DISTRIBUTION OF MARKS IN VARIOUS PRACTICAL

S. No.	Name of the Practical	Total Mark	Distribution			Marks
			Sessi.	Viva		
01.	Nutritional Biochemistry	25	5	5	Titration	
					Identification of CHO	10
					Blood	05
02.	Food Preservation	25	5	5	Preparation	10
					Presentation	05
03.	Early Childhood Education	25	5	5	Preparation & Teaching	05+10
04.	Extension Education	25	5	5	Practical - (2)	15
05.	Foundation & Art & Design	25	5	5	Practical - (2)	15
06.	Apparel Making	25	5	-	Embraidry & Texture	05+05
					Stitching or Designing	10

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GROUP - I

PAPER - A

आधार पाठ्यक्रम

प्रश्न पत्र - प्रथम (हिन्दी भाषा) **पूर्णांक - 75**

(पेपर कोड-0581)

(बी.ए., बी.एस.सी., बी.एच.एस-सी., बी.काम., तृतीय वर्ष के पुनरीक्षित एकीकृत आधार पाठ्यक्रम एवं पाठ्य सामग्री का संयोजन 2000-2001 से लागू है)

।। सम्प्रेषण कौशल, हिन्दी भाषा और सामान्य ज्ञान ।।

आधार पाठ्यक्रम की संरचना और अनिवार्य पाठ्य पुस्तक- हिन्दी भाषा एवं समसामयिकी- का संयोजन इस तरह किया गया है कि सामान्य ज्ञान की विषय वस्तु- विकासशील देशों की समस्याओं- के माध्यम, आधार और साथ-साथ हिन्दी भाषा का ज्ञान और उसमें सम्प्रेषण कौशल अर्जित किया जा सके । इसी प्रयोजन से व्याकरण की अन्तर्वस्तु को विविध विधाओं की संकलित रचनाओं और सामान्य ज्ञान की पाठ्य सामग्री के साथ अन्तर्गुस्फित किया गया है । अध्ययन-अध्यापन के लिए पूरी पुस्तक की पाठ्य सामग्री है और अभ्यास के लिये विस्तृत प्रश्नावली है । यह प्रश्नपत्र भाषा का है अत: पाठ्य सामग्री का व्याख्यात्मक या आलोचनात्मक अध्ययन अपेक्षित नहीं है । पाठ्यक्रम और पाठ्य सामग्री का संयोजन निम्नलिखित पाँच इकाइयों में किया जाता है । प्रत्येक इकाई दो भागों में विभक्त किया गया है ।

इकाई-1 (क) भारत माता : सुमित्रानंदन पंत, परशुराम की प्रतीज्ञा : रामधारी सिंह दिनकर, बहुत बड़ा सवाल : मोहन राकेश, संस्कृति और राष्ट्रीय एकीकरण : योगेश अटल ।

(ख) कथन की शैलियाँ : रचनागत उदाहरण और प्रयोग ।

इकाई-2 (क) विकासशील देशों की समस्यायें, विकासात्मक पुनर्विचार, और प्रौद्योगिकी एवं नगरीकरण ।

(ख) विभिन्न संरचनाएँ ।

इकाई-3 (क) आधुनिक तकनीकी सभ्यता, पर्यावरण प्रदूषण तथा धारणीय विकास ।

(ख) कार्यालयीन पत्र और आलेख ।

इकाई-4 (क) जनसंख्या : भारत के संदर्भ में और गरीबी तथा बेरोजगारी ।

(ख) अनुवाद ।

इकाई-5 (क) ऊर्जा और शक्तिमानता का अर्थशास्त्र ।

(ख) घटनाओं, समारोहों आदि का प्रतिवेदन और विभिन्न प्रकार के निमंत्रण-पत्र ।

मूल्यांक योजना : प्रत्येक इकाई से एक-एक प्रश्न पूछा जायेगा । प्रत्येक प्रश्न में आंतरिक विकल्प होगा । प्रत्येक प्रश्न के 15 अंक होंगे । प्रत्येक इकाई दो-दो खंड (क्रमश: 'क' और 'ख' में) विभक्त है, इसलिए प्रत्येक प्रश्न के भी दो भाग, (क्रमश: 'क' और 'ख') होंगे । 'क' अर्थात पाठ एवं सामान्य ज्ञान से संबद्ध प्रश्न के अंक 8 एवं 'ख' अर्थात भाषा एवं सम्प्रेषण कौशल से संबद्ध प्रश्न के अंक 7 होंगे । इस प्रकार पूरे प्रश्न पत्र के पूर्णांक 75 होंगे ।

GROUP - I

PAPER - B

ENGLISH LANGUAGE **M.M. 75**

(Paper Code-0582)

The question paper for B.A./B.Sc./B.Com./B.H.Sc. III Foundation course, English Language and General Answers shall comprise the following items :

Five question to be attempted, each carrying 3 marks.

UNIT-I Essay type answer in about 200 words. 5 essay type question to be asked three to be attempted. 15

UNIT-II Essay writing 10

UNIT-III Precis writing 10

UNIT-IV (a) Reading comprehension of an unseen passage 05

(b) Vocabulary based on text 10

UNIT-V Grammar Advanced Exercises 25

Note : Question on unit I and IV (b) shall be asked from the prescribed text. Which will comprise of popular create writing and the following items. Minimum needs housing and transport Geo-economic profile of M.P. communication Educate and culture. Women and Worm in Empowerment Development, management of change, physical quality of life. War and human survival, the question of human social value survival, the question of human social value, new Economic Philosophy Recent Diberaliation Method) Demoration docontralisation (with reference to 73, 74 constitutional Amendment.

Books Prescribed :

Aspects of English Language And Development - Published by M.P. Hindi Granth Academy, Bhopal.

Group - II

PAPER - A **M.M. 50**

NUTRITIONAL BIOCHEMISTRY

(Paper Code-0583)

UNIT-I (A) Introduction to Biochemistry - definition, objectives, scope and interrelationship between Biochemistry and other biological sciences.

(B) Carbohydrates - Definition, classifications functions and properties of

- Monosaccharides - Glucose, Fructose, Galactose
- Disaccharides - Maltose, Lactose, Sucrose
- Polysaccharides - Dextrin, Starch, Glycogen

Glycolysis, Gluconeogenesis, Glycogenesis, Glycogenolysis, citric and cycle.
Blood sugar regulation.

UNIT-II (A) Lipids - Definition, composition, importance and classification
Fatty acids - Functions, properties
Significance of Acid value, Iodine value and saponification value.
Chemistry and function of Phospholipids, Glycolipids and sterols.
Metabolism - β (Beta) Oxidation.

(B) Aspects of transport - Passive diffusion, FAcilitated diffusion, Active transport.

UNIT-III (A) Proteins - Definition composition function, and classification.
Amino acids- Essential and Nonessential.
Metabolism - Urea cycle, Nitrogen balance, Amino acid pool.

(B) Enzymes - Definition, properties, classification, Mode of action of enzymens, factors affecting velocity of enzyme catalyzed reactions, coenzymes.

UNIT-IV (A) Harmones - Biological roles of harmones of Pituitary, Adreral cortex and medulla, Thyroid, Parathyroid, Pancreas, Sex glands.

(B) Urine - Formation amd Composition.

UNIT-V (A) Energy - Definition, Unit, calorimetry, caloric value of foods, BMR, RQ, SDA of Foods.

(B) Nucleic Acid and Nucleoproteins - Chemistry, composition, structure, functions.

PRACTICALS (Any Six)

1. Identification of Glucose, Fructose, Maltose, Lactose, Sucrose, Starch.
2. Colour and precipitation reactions of Protein.
3. Colour reactions of cholesterol.
4. Estimation of Glucose by Benedict's method.
5. Estimation of Ascorbic acid by Iodometric method.
6. Estimation of Glycine by Titration.
7. Estimation of Haemoglobin by acid hanmotion method.
8. Preparation of Haemin crystals.
9. Action of Salivary amylase on conversion of starch.

Group - II

PAPER - B **M.M. 50**

FOOD PRESERVATION

(Paper Code-0584)

UNIT-I Food and it's preservation
Home and community level including commercial operations.
Principles of food Preservation
Causes of spoilage of food.

UNIT-II Fresh Food Storage
Principles - Plant product.
Storage, animal product
Storage, Effect of Storage
Condition on quality
Canning - Principles and methodology influence of canning o0n food quality. Storage of canned foods.

UNIT-III **Pasteurisation**
Effect on food quality,
Storage of pasteurised food.
Drying & Dehydration
Methods used and effect on food quality. Types of driers. Storage and deterioration of dehydrated food products.

UNIT-IV **Use of low temperature**
Refrigeration and freezing methods, principles and applications. Preparation of foods for freezing influence on food components and structure. Self life of frozen foods.
Pickling and Fermentation
Pickles, chutneys, ketchups sauces. Fermentation - Types, products and method use Establishment of a small scale industry / cottage industry.

UNIT-V Chemical Preservatives
Preparation of Fruit, Juices, Squashes, Fruite Syrups, Cordials, Jam Jelly.
High Acid & High Sugar Products -
common defects, Preservation of crystalized and glazed fruits.
Nutritional implications of food processing
Causes for loss of vitamins and minerals. Enrichment, Restoration and Fortification.

PRACTICALS : (Any Six)

1. Preparation of Jam, Jellies marmaledes.
2. Preparation of Pickles & chutneys.
3. Dehydration of Vegetables & Fruits.
4. Preparation of synthetic syrups & squashes.

5. Preparation of Sauces.
6. Preparation of Papad, Badi, Chips.
7. Survey of market products.
8. Packaging.

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1. Oser, B.L. 1965 : 14 Ed. Hawk's Physiologycal chemistry, Mc Graw Hill Book Co.
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GROUP - III

PAPER - I **M.M. 50**

EARLY CHILDHOOD EDUCATION (Paper Code-0585)

Code - 34113 + 34114 cr T5 + P2 Pol/wk 5 + 4

FOCUS-

The course focuses on need to provide various early childhood care and educational facilities through different programmes, for early childhood eduction. Types and present status of ECCE programmes are covered in this course. The recent policies affectionary young children are also included.

The course introduces students to the concept of curriculum for all round development of children. The main emphasis is on various components of curriculum to be included in daily program through medium of play. Method of learning by doing which forms the basis for understanding and knowledge is extended to the first two years of primary school.

OBJECTIVES :-

1. To know importance of early childhood care and significance of intervention programmes for early child development.
2. To understand major theoretical approaches and implication for early child development.
3. To become acquainted with current policies and programs in ECCE.
4. To meaning of curriculum and various components to be included in the daily programmes to promote all round development of children.
5. To recognize role of play in children's development.
6. To understand goals, principles, factors and approaches used in programme planning.
7. To recognize the advantages of project method and learn to use integrated approach in the development of daily programme.

UNIT-I Significance and objectives of early childhood care and education.

1. Significance of early childhood years in individuals development.
2. Meaning and need for intervention programmes for better growth and development.
3. Objectives of ECCE.
4. Different types of programs currently offered. Objectives of the program routine

and target group covered by each of the following.
ECE programme - Balwadi, anganwadi, Nursery school, Kindergarten, Montessori, laboratory nursery school ECCE Program - ICDS and mobile cretch.
Play group : day care.

UNIT-II Current Status and Expansion of Scope of ECE to ECCE 18

- Expansion from ECE to ECCE.
- Current Status of ECCE programme.
- Objectives : staff qualifications, teacher-children ratio, indoor and outdoor play space and play facilities, equipment, curriculum and evaluation.
- Admission tests and effects on children.
- Effects of pressures on young children due to formal education.
- Need for ECCE programmes to provide quality care where mothers are at work.
- Historical overview of ECCE.
- Global perspective - views of educationists - Froebel, Mac Millan sister, Deweu and Montessori.
- ECE in India : Overview of pre and post independence period.
  - Contributions of Ravindranath Tagore, Mohandas Gandhi, Gijubhai Bodheka, Tarabai Modak, Anutai Wagh.

Recent Developments : Policies, Institutions and contributions of NGOs 10

- national policy on children.
- National policy on education 1986.
- Adoption of Ram Joshi Committee Report on Child Education by Government of Maharashtra.
- Role of Indian Association of Preschool Education, National Institute of Public Cooperation and Child Development, National Council for Educational Research and Training, SCERT and NGOs.

UNIT-III

- Meaning of curriculum, Foundation of curriculum development.
- Impact of play as means of development and learning.
- Developmental stages of play.
- Types of Play - Solitary play, parallel play, associative play and coopertives play.
- Functions of play - play as a means of assessing children's development.
- Teachers Role in creating environment and Promoting play.
- Classical theories of play - Surplus energy theory relaxation theory, Pre-exercise & recapitulation theory.

Programme Planning 4

- Approaches to learning : Incidental and planned learning.
- Principles of programme planning :
  - from known to unknown, simple to complex, concrete to abstract.
- Balance between individual and group activity, indoor and outdoor play, quiet and active plays, guided and free activities.
- Factors influencing programme planning.
- Formal versus non-formal approach in education : advantages and disadvantages.
- Integrated learning approach or project method that is covering various components of curriculum that is focussing on one topic/theme at a time.
- Short and long term planning.

UNIT-IV Languages

- Goals of language teaching.
- Readiness for reading and writing. Meaning of readiness.

- Factor to be considered for readiness : Age, Vision, Hearing, Physical, emotional, social, experiential background, attention span, finer motor coordination, eye hand coordination, reading from left to right and top to bottom.

Mathematics

- Importance of number and mathematics.
- Number as a language and history of its development.
- Abstract nature of number.
- Mathematical readiness.
- Analysis of prerequisite skill for number classification, comparing, seriation, patterning, counting, shape and space, measurement fractions, vocabulary, numeral operations.
- Decimal system of numeration (base 10)
- Number line-position and relevance of zero.
- Operations and relevant rules and properties; subtraction, multiplication and division.
- Two and three dimension shapes, properties, characteristics.
- Basic principles of measurements 0 time, distance, weight, capacity and money.

Environmental studies (2)

- Scope of environmental studies.
- Importance and goals of environmental studies.
- Content : to conclude understanding from biological, physical and social environment.

UNIT-V Project method (2)

- Introduction
- Meaning and advantages of using project method.
- Planning .
- Resource unit.

Alternative to Home Work (2)

- Disadvantages of learning by role.
- Suitable alternatives such as observations, exploration, experimentation and reporting orally, picture or at. Something related to the concepts covered in class.

Evaluation

- Need for evaluation.
- Formative and summative evaluation.
- Methods of evaluation : Observations
- Evaluation of daly work, tools for evaluation
- Reporting to parents.

PRACTICALS : (any four) (30)

1. Plan three activities for children : list objectives, analyst tasks to achieve goals, select and organize instructional and learning materials, teacher's role, preparation of evaluation sheets i.e. chick list, rating scale.
2. Prewriting activities.
3. (a) Mathematics
   (b) Readiness
   (c) Materials for classifying, comparing, seriations, patterning, counting shapes, fractions, list vovabulary related to mathematical concepts.
   (d) Material for addition, subtraction, multiplication and divisions.
   (e) Graphs.
   (f) Experiences for understanding time distance weight, capacity and money.

4. Plan science experiences.
5. Plan a project based on lessons of first and second standard, plan activities which children can do at home.

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Group - III

PAPER - B **M.M. 50**

EXTENSION EDUCATION (Paper Code-0586)

UNIT-I

1. Concept of Education
   (a) Meaning of Extension (b) Origin of Extension
2. Extension Education Process
   (a) Environment for learning (b) Role of educator
   (c) Role of the people participants.
3. Communication Process

UNIT-II

4. Concept of adult / non formal education
   (a) Meaning (b) Purpose
5. Five Year Plans
   (a) History of planning in India.
   (b) Five year plans and their focus.
6. Planning at different levels - National to Grass roots.

UNIT-III

7. Programmes to enhance food production
   (a) national food production programmes.
8. Poverty alleviation efforts
   (a) Programmes for poverty alleviation for rural and urban areas.
   (b) Current programmes for rural and urban poor.

UNIT-IV

9. Programmes for women and children
   Women as target groups - specific measures for women and children such as

DWCRA, ICDS, IMY. Current programmes for women as initiated and implemented by the different ministeries and Departments.

10. Role of NGOs
    Need for participation of Non-Governmental organisations in developmental efforts. Encouragement given NGO's - Role of CAPART.

UNIT-V Advertising Media

11. Different media for advertising - print media, Newspapers and periodicals.
12. Broadcast media - Television - Films.
13. Non- media advertising
14. Outdoor advertisement - Hoardings, Posters, Billboards, Bulletin Boards, Electronic sings, Letterbins, Aerial methods.
15. Transportation media (Mobile Vehicles)
16. Exhibition and Trade fair.

PRACTICALS :

1. Visits to Raido / T.V. stations.
2. Script writing for Radio.
3. Visit to Extension Education Unit.
4. Write slogen about Adult-Education.
5. Desigening an Advertisment for any product with relavent slogen atleast Two.

Group - IV

PAPER - A **M.M. 50**

FOUNDATION OF ART AND DESIGN (Paper Code-0587)

Cr - T3 P3

UNIT-I Introduction to foundation of art

1. Design, Definition and types : Structural and Decorative
2. Elements of design :-
   1. Line
   2. Size
   3. Form
   4. Structure
   5. Space
   6. Pattern
   7. Shape
   8. Light - Characteristics and Classification
   9. Study of Colour - classification, dimensions, colour schemes and effect.
3. Principles of design - definition and their characteristics and types :-
   1. Balance
   2. Harmony
   3. Scale
   4. Proporation
   5. Rhythm
   6. Emphasis

UNIT-II 1. Indian, regional, traditional and contemporary arts and their use in :-

   1. Floor decoration
   2. Home decoration
   3. Accessories

2. Appreciation of art
   1. In terms of principles of art and design
   2. In terms of composition and aesthetic appeal.

UNIT-III 1. Family's Housing Needs

   1. Protective, economic, affectional, social, standard of living, housing goals, style, function occupation.

2. Factors influencing selection and purchase of site for house building
   1. Legal aspects, location, physical feature, soil conditions, cost, services.

3. House planning -
    1. Reading house plans.
    2. Grouping of rooms, orientation, circulation, flexibility, Privacy spaciousness, services, aestheriucs, economy, light and ventilation.
    3. Planning different rooms : living room, dining room, bedrooms, kitchen, store room, toilet, passage, staircase.
    4. Landscape planning - Principles and application.

UNIT-IV 1. Financial Considerations :
    1. Availability of funds for housing
    2. Housing Development finance corporation
    3. Cooperative Housing Society
    4. Life Insurance corporation
    5. Cooperative Banks
    6. Loan from provident fund
    7. Finance corporation of India
    8. Disability of owning versus renting
2. State and central Housing scheme
    1. Housing problems, causes and remedial measures.

UNIT-V 1. Furniture :-
    1. Styles of furniture - traditional contemporary and modern.
    2. Selection of furniture for comfort, rest and relaxation for work, for storage
    3. Arrangement of furniture for living. Sleeping, dining and multipurpose rooms.
    4. Uphosltered furniture materials, techniques and designs.
2. Furnishing fabrics
    1. Types of curtains, draperies, floor coverings rugs and carpets, cushion covers.
    2. Selection and use
        1. Accessories and their role in interiors

PRACTICALS : (Any Ten)

1. Freehand drawing : Memory drawing and sketching.
2. Scale drawing, solid geometry, orthographic.
3. Preparation of colour wheel and colour schemes.
4. Elements of design laws of field size, proportion, types of shadows.
5. Residential space planning - scale, lines, abbreviations, metric projections, defining space by shades, shadows.
6. Lettering.
7. Use of colour for wall/floor decoration and making accessories.
8. Application of design principles in flower arrangement, styles of flower ar rangement, innovation of new styles.
9. Gift wrapping and preparing decorative articles of sibre, fabric, coir, bamboo, clay, metal etc.
10. Drawing houseplans with standard specifcation.
11. Furniture layout of living, dining. Kitchen and bedroom designs presentation with furniture layout, sectional elevation, views.
12. Development of designs and construction of any five of the under mentioned items - cushions, certains, carpets, doormats, rugs, table mates.
13. Wall paintings, picture frame design.
14. Graphic designs.

Group - IV

PAPER - B **M.M. 50**

APPAREL MAKING & FASHION DESIGNING (Paper Code-0588)

Cr T-3; P-5

UNIT-I Introduction

- Importance of Clothing
- Sociological & psychological aspects of clothing Fabrics to be considered while selecting of fabric for different garment.
- Estimation of material required for different garments (cloth estimation)
- Study of fabric finishes - Meaning, objective facilites, General & special.

UNIT-II Experiments & principles of design : Meaning methods of creating importance Elements of principles of design as applied, to apparel designing - Harmony, balance proportion, Rhythm & emphasis.

Element :- Lines, shapes / forms.

Colour consideration : Definition, Dimensions, characteristics colour systems & colour schemes.

Classification & Process of designing -

Structural

Decorative

Realistic

Abstract

Stylized

Geometric

Traditional

Big & small design

UNIT-III Fashion - Definition

- Fashion trends in India & changes
- Theories
- Body measurements
- Tailoring tools & Equipments
- Methods of taking body measurements
- For different garments
- Importance
- Pattern making techniques -
  Flat pattern
  Drafting
  Drapping

UNIT-IV Fashion Illustrations :-

Disposals of fullness

1. Plackets — One piece, two piece, seam, inversible, Continuous
2. Neck lines
3. Collie's
4. Sleeve details
5. Factories
6. Frill & gatheri

7. Pleats & Tucks
8. Darts
9. Patch work
10. Seams & seam finishes

UNIT-V Fundamentals of Embroidery :-

- Techniques, design colour, uses of different combination - threads;
- Embroidery stick - Types
- Types of thread, needle, used for different fabrics.
- Study of traditional Embroideries of India.

Kasida of Kashmiri
Kantha of Bengal
Chichenkari of Lucknow
Kutch & kathiawan
Kasuti of Karnataka
Phulkari of Punjab
Gold & Silver (Zari work)
Applique work

PRACTICALS :- TECHNIQUES

(any seven)

1. Preparation of paper pattern for all age groups
   (A) Creeping age (B) Preschools
   (C) For Children wear (D) For men's wear
   (E) For Ladies wear
2. Adoption of the basic block to various clothes & their stitching Saree - blouses; Salwar; Chudidar Kameez; Petticoats; Frock; Night Dress.
3. Making samples of traditional embroideries of India (any five).
   (i) Kashida of Kashmir
   (ii) Kantha of Bengal.
   (iii) Kasuti of Karnataka
   (iv) Kutch Kathiawar
   (v) Phulkari of Punjab
   (vi) Chikankari of Lacknow
   (vii) Gold & Silver (Zari work)
4. Free hand sketching of simple objects involving various shapes & forms.
5. Drawing designs for various textile articles by adopting principles of design.
6. Drawing & colouring a colour wheel.
7. Painting designs with different colour schemes.
8. Reducing & enlarging a design.
9. Creating various textures.

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परीक्षा : 2015

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