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M.A./M.Sc. (Fourth Semester)
EXAMINATION, May-June, 2022
MATHEMATICS
Paper Fifth(A)
[Programming in C (with ANSI Features)-II]

Time : Three Hours]   *[Maximum Marks: 70*

Note - Attempt all sections as directed.

Section - A
(Objective/Multiple Type Questions)
(1mark each)

Note : Attempt all questions.

Choose the correct answer.

1. What is the initial value of automatic storage class specifier?

   (A) 1

   (B) Null

   (C) Garbage value

   (D) Infinite

[2]

2. Every function of C language are always used -

   (A) External

   (B) Internal

   (C) Both internal and external

   (D) External and Internal are not valid terms for functions

3. Which of the following statement is correct?

   (A) C storage decides where to or which memory store the variable

   (B) C storage class decides what is the default value of a variable,

   (C) C storage class decides what is the scope and life of a variable

   (D) All the above

4. Choose the wrong keywords set below :

   (A) auto, double, int, struct

   (B) break, else,long, switch

   (C) union, const, var, float

   (D) case, enum, register, typedef

5. Where does a Register storage class variable stored in a computer?

   (A) RAM

   (B) CPU

   (C) ROM

   (D) DMA

6. In C programming how many values can return a function at a time?

   (A) Maximum of three values

   (B) Maximum of two values

   (C) Only one value

   (D) Maximum of 8 values

7. Which of the following return-type cannot be used for a function in C ?

   (A) void

   (B) struct

   (C) char*

   (D) None of the mentioned

8. What is the output of this the program?

```
#include<stdio.h>
void main()
{
int a[ ]={5,9,10,11,12},*p;
p=a;
++*p;
printf ("%d",*p);
p+=2;
printf("%d",*p);
}
```

   (A) 910

   (B) 594

   (C) 410

   (D) 1112

9. Which of the following true for .C file?

   (A) Executable code

   (B) Compiler code

   (C) Source code

   (D) Machine code

10. Which of the following keyword used to create global constants?

   (A) constant

   (B) definition

   (C) def

   (D) define

11. What is the output of the program?

```
# include<stdio.h>
# define max 300
main()
{
# ifdef max
printf("science")
}
```

   (A) 300

   (B) science

   (C) error

   (D) "science"

12. What is meaning of #include<stdio.h>?

    (A) It is include directive

    (B) It is preprocessor directive

    (C) None of the mentioned

13. What is the size of a structure in C language?

    (A) C structure is always 64 bytes.

    (B) Size of C structure is the size of largest element

    (C) Size of C structure is the total bytes of all elements of structure

    (D) None of the above

14. What is the optimal time complexity to count the number of nodes in a linked list?

    (A) O(1)

    (B) O(logn)

    (C) O(n)

    (D) None of the above

15. What is the output of the program?

    #include<stdio.h>

    enum number

    {

    a=5,b=7.93

    };

    enum number 5;

    main()

    {

    printf("%d%d",a,b);

    }

    (A) Error

    (B) 57

    (C) 01

    (D) 57.93

16. Which of the following statement is an example of static memory allocation?

    (A) Linked list

    (B) Structure

    (C) Array

    (D) Union

P.T.O.

17. Choose a correct statement about C structures-

   (A) Structure members can not be initiatized at the time of declaration

   (B) Structure elements can be initiatized at the time of declaration

   (C) Only integer members of structure can be initialized at the time of declaration

   (D) None of the above

18. Which data type is correct in C language for File management system in C?

   (A) char

   (B) struct

   (C) float

   (D) volatile

19. Choose a correct statement about C file handling-

   (A) FILE* fopen (const* filename)

   (B) FILE*openf(const*filename, const char* mode)

   (C) FILE* fopent (const* filename)

   (D) FILE*fopen (const*filename,const char* mode)

20. The fwrite() function can be used only with files that are opened in:

   (A) Text mode

   (B) Binary mode

   (C) Both (A) and (B)

   (D) None of the above

Section - B

(Very Short Answer Type Questions)

(1 mark each)

Note: -Attempt all questions. Answer in 1-2 sentences.

1. What is extern storage class.

2. Write duration and scope of static storage class variable.

3. Define pointer in C.

4. What do you mean by macro-substitution?

5. What do you mean function argument?

6. Why we use functions in our program?

7. Define union in C.

8. Define realloc() function.

9. What are the common uses of rewind?

10. What do you mean by file pointer?

Section-C

(Short Answer Type Questions)

(2 marks each)

Note : Attempt all questions. Answer every question in 75 words.

1. Explain register specifier.

2. Define Global variables and write its scope and life.

3. Define multidimensional array with suitable example.

4. What do you mean by pointer arithmetic? Give suitable example.

5. What is a conditional compilation in C language.

6. Write C program to find factorial of given number using recursion.

7. What is a linked list? What are the advantages of using linked list over array?

8. Explain Input and output streams.

9. What is structure?

10. Define any three file handling functions.

Section-D

(Long Answer Type Questions)

(4 marks each)

Note-Attempt all questions.

1. Explain register storage class and external storage class.

OR

Explain ANSI rules for the syntax and semantics of the storage class keywords.

2. Explain the following:

(a) Accessing array elements through pointers.

(b) Array of pointer.

P.T.O.

OR

Explain strcpy(), strcat() and write a program to count total number of alphabets, digits and special character in a string without using string handling function.

3. Explain the following:

(a) Line control

(b) Pre-processor in C

OR

Write difference between call by value and call by reference with suitable example.

4. Distinguish between structure and union.

OR

Write a program to maintane the book record using of structure with the following members:

acc. no, title, author, publisher, year, price and sort the record on the basis of acc no.

5. Define the following:

(i) getc()

(ii) putc()

(iii) fscanf()

(iv) feof()

OR

Write a C program for accept series of integer and separate even and odd integer to different files.