



MS – 539

VI Semester B.C.A. Degree Examination, May/June 2014
(Y2K8 Scheme)

BCA – 602 : SYSTEMS PROGRAMMING

Time : 3 Hours

Max. Marks : 90/100

- Instructions:** 1) Answer **all** questions.
2) Section – **D** is applicable for the **2011-12** Batch and Onwards.
F – 100 : 2013-14 and Onwards.
R - 90 : Prior to 13-14.

SECTION – A

I. Answer **any ten** questions :

(10×2=20)

- 1) What are the components of a programming system ?
- 2) Define compile time and load time.
- 3) What is the difference between CR and CLR instructions ?
- 4) Define pseudo-OP. Give one example.
- 5) What is the structure of Base table ?
- 6) Define fixed table. Give an example.
- 7) What is meant by macro call ?
- 8) Name the four features of a macro facility.
- 9) Define loader.
- 10) Expand the terms GEST and RLD concerned to loaders.
- 11) What is meant by lexical analysis ?
- 12) Name the tables created by the compiler during lexical phase.

SECTION – B

II. Answer **any five** questions :

(5×5=25)

- 13) What are the basic instruction formats supported by IBM 360/370 architecture ?
- 14) What is sorting ? Explain briefly about interchange (bubble) sort ?
- 15) What are the databases used by pass 1 of two pass assembler ?

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- 16) Explain macro facility with macro instruction argument with an example.
- 17) Draw the block diagram of general loading scheme and explain.
- 18) Define : (a) Binder (b) Dynamic loading.
- 19) What are the rules for converting an arithmetic statement into a parse tree ? Explain with an example.
- 20) Discuss briefly about syntax phase of a compiler.

SECTION – C

III. Answer **any three** questions.

(3×15=45)

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| 21) a) Draw the micro-flow chart for ADD instruction. | 8 |
| b) What are the data formats supported by IBM 360/370 architecture ? | 7 |
| 22) a) Draw the detailed pass I flow chart of an assembler. | 8 |
| b) What are the steps followed in general design procedure of an assembler ? | 7 |
| 23) a) Draw the flow chart of pass I of macro processor to show how it process the macro definitions. | 8 |
| b) What are the data bases used in Pass 1 of the macro processor ? | 7 |
| 24) a) Discuss about direct linking loader. | 8 |
| b) Draw the flow chart of an absolute loader and explain. | 7 |
| 25) a) Draw the block diagram of the structure of a compiler. | 8 |
| b) Discuss briefly about lexical phase of compiler. | 7 |

SECTION – D

IV. Answer **any one**.

(1×10=10)

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|--|---|
| 26) a) Differentiate between pseudo-op and machine op1 with example. | 5 |
| b) Define macro. State its advantages. | 5 |
| 27) a) What are the four different types of cards produced by the direct linking loader ? Discuss. | 5 |
| b) What are the four optimisation techniques used in the compiler ? | 5 |