

**Sixth Semester B.C.A. Degree Examination, September 2020**

(CBCS Scheme)

**Computer Science**

**SYSTEM SOFTWARE**

Time : 3 Hours]

[Max. Marks : 90

Instructions to Candidates : Answer all Sections.

SECTION - A

- I. Answer any **TEN** questions : (10 × 1 = 10)
1. Define software system.
  2. How many registers are there in IBM 360?
  3. Define formal system.
  4. Define forward referencing.
  5. Mention the functions of Assembler.
  6. Give the use of macro processor.
  7. For what MNT is used?
  8. Define loader.
  9. Give the advantages of compile and go loader.
  10. Define EXTRN.
  11. Which are fixed tables used in General Model of compiler?
  12. Give the usage of matrix database in compiler design.

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**SECTION - B**

**(5 × 3 = 15)**

II. Answer any **FIVE** questions :

13. Write a note on machine level language.
14. Give the steps of general design procedure of an assembler.
15. Mention the different ways of macroprocessor implementation.
16. Give the formats of databases used in restricted facility.
17. What are the functions of macro processor? Explain.
18. Explain dynamic linking.
19. Construct matrix for following expression  $A = C * D * (D * C) + B$  and optimise it.

**SECTION - C**

**(6 × 5 = 30)**

III. Answer any **SIX** questions :

20. Explain General machine structure with a neat diagram.
21. Explain the components of a programming system.
22. What are assembler directives? Explain any eight of them.
23. Give the flow chart for pass1 of macro processor.
24. Write a note on general loading scheme.
25. What is the use of binder? Explain its types.
26. Explain Lexical Analysis.
27. Explain databases used in interpretation phase.

SECTION - D

IV. Answer any **FIVE** questions : (5 × 7 = 35)

28. Give pass1 and pass2 overview flow charts of assembler.
29. What are the data structures used in assembler design? Explain with their formats.
30. What are the features of macro facility? Explain any two.
31. (a) Write a note on relocating loaders.  
(b) What is subroutine linkage? Explain. (4 + 3)
32. Explain object decks used in design of Direct Linking loader along with their formats.
33. Describe General model of compiler.
34. (a) With the help of flowchart explain passes of compiler.  
(b) Mention types of compiler. (5 + 2)

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