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Reg. No. | | | | | | | | |

VI Semester B.C.A. Degree Examination, August/September - 2023

COMPUTER SCIENCE

System Programming

(CBCS Scheme)

Paper: BCA 601T

Time : 3 Hours **Maximum Marks :100**

Instructions to Candidates:

Answer all Sections.

SECTION - A

Answer any ten questions each question carries two marks. **(10×2=20)**

1. Define system software? List the components of System software.
2. Differentiate between compiler and interpreter.
3. Define Location counter.
4. Define PSW?
5. Define AIF and AGO pseudo-ops.
6. Write the format of MNT.
7. What is Dynamic loading?
8. What are the functions of a Loader?
9. What is intermediate form?
10. Define tokens? Give example.
11. Mention the Databases used in lexical phase.
12. What is code generation phase of a compiler?

SECTION - B

Answer any five questions. Each question carries five marks. **(5×5=25)**

13. Explain the different Instruction format used in IBM 360/370 with suitable example.
14. Explain Long-way-no-looping with an example.
15. Explain the database format used in pass 1 of an assembler.

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16. Perform address calculation sort for the given numbers 29, 23, 14, 5, 15, 10, 3, 18, 1
17. Explain macro instruction arguments with an example.
18. Explain "Compile-and-Go-" loader with neat diagram.
19. Explain overlay - structure for linking.
20. Explain Databases used in lexical analysis phase of compiler.

SECTION - C

Answer any three questions. Each question carries fifteen marks. (3×15=45)

21. a) Explain General machine structure of IBM 360 with neat diagram. (8)
    b) Explain Data format of IBM 360 with syntax and example. (7)
22. a) Draw detailed pass 2-flow chart of an assembler. (8)
    b) Define pseudo-op? Explain any five pseudo - op with an example. (7)
23. a) Give the specification of Database used in pass 1 and pass 2 of a Macro processor. (8)
    b) Explain the four basic task of Macro - Preprocessor. (7)
24. a) Explain the design of Absolute loader with neat diagram. (8)
    b) Write a note on direct - linking loader. (7)
25. a) Explain the different phases of compiler with a neat diagram. (8)
    b) Explain the syntax phase of a compiler. (7)

SECTION - D

Answer any one question. This question carries ten marks. (1×10=10)

26. a) Draw the micro-flow chart for ADD instruction. (5)
    b) Explain the conditional Macro expansion. With an example (5)
27. a) What is optimization? Explain its types. (5)
    b) Explain the use of EXTERN and ENTRY Statements.
