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VI Semester BCA Degree Examination, September/October - 2022

## COMPUTER SCIENCE

System Programming  
(CBCS Scheme (F+R))

Paper : BCA 601 T



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. What is system software?
2. List any two advantages of assembly language.
3. Explain MAR and MBR.
4. Mention different databases used by assemble.
5. What is Macro?
6. What are the four basic tasks of Macro processor.
7. Explain EXTRN and ENTRY.
8. What are the functions of Loader?
9. Name any two types of Loader.
10. What is compiler?
11. What do you mean by Machine dependent optimization?
12. Mention different phases of compiler.

## SECTION - B

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

13. Explain Instruction format of IBM 360/370 with syntax and example. (5)
14. Draw Micro Flowchart for ADD instruction. (5)
15. Sort the following away using Radix sort 12, 14, 6, 9, 8, 7, 11, 10. (5)
16. What is a General format of Macro definition? Explain with an example. (5)

[P.T.O.]



17. Sketch the format of databases used by two pass assembler. (5)
18. Explain compile-and-go loader scheme. (5)
19. Explain Machine independent optimization. (5)
20. Explain databases used in lexical phase of a compiler. (5)

### SECTION-C

Answer any **THREE** questions. Each question carries **Fifteen** marks: (3×15=45)

21. a) Explain General Machine structure of IBM 360/370 with neat diagram. (8)  
b) Explain the following pseudo-op with an example USING, END, DS, DC, START, DROP EQU. (7)
22. a) Explain with flowchart overview part I of two pass Assembler. (7)  
b) Explain longway no looping. (8)
23. a) Explain databases used in Pass I and pass II of Macroprocessor. (8)  
b) Explain Macro calls within Macro with an example. (7)
24. a) Explain design of an absolute loader with neat diagram. (8)  
b) Explain four cards used in direct heating loader. (7)
25. a) Explain different phases of a compiler with a neat diagram. (8)  
b) Explain Intermediate phase of a compiler. (7)

### SECTION-D

Answer any **ONE** questions. Each question carries **TEN** marks: (1×10=10)

26. a) Explain Major components of system software. (5)  
b) Write a note on general loading scheme. (5)
27. a) What are overlay structure? Explain with neat diagram. (5)  
b) Explain code Generation phase of compiler. For "T" operation with optimized register usage. (5)