GS-643

VI Semester B.C.A. Examination, May/June 2019
(CBCS - F+R) (2016-17 & onwards)
COMPUTER SCIENCE
BCA 602 : System Programming

Time : 3 Hours   Max. Marks : 100

Instruction : *Answer all sections.*

SECTION - A

I.   Answer **any ten** questions. Each question carries **two** marks.   **10x2=20**
1. Define System Programming.
2. Mention the functions of loader.
3. Explain BCT and LTDRG pseudo-ops.
4. Define DC and DS.
5. What is Macro ? Write down its syntax.
6. Define open and closed subroutine.
7. Define PSW.
8. Define local and global Optimization.
9. What is MDT and MNT ?
10. What is sorting ?
11. Differentiate between compiler and assembler.
12. Mention any 4 components of SP.

SECTION - B

II.   Answer **any five** questions, Each question carries **five** marks.   **5x5=25**

13. Explain Data formats of IBM 360/370 machine.

14. Explain Long-Way-No-Looping with example.

15. Sort following array using Radix exchange Sort
21, 14, 19, 11, 7, 12

16. Explain Macro definition with arguments with an example.

17. Write specification of databases used in pass 1 and pass 2 Assembler.

18. Explain General Loader Scheme.

19. Explain Machine independent optimisation.

20. Explain databases used in lexical analysis phase of a compiler.

SECTION - C

III. Answer **any three** questions. Each question carries **fifteen** marks.   **3x15=45**

21. (a) Explain General Machine Structure of IBM 360/370 with a neat diagram.
    (b) Explain instruction formats of IBM 360/370 with syntax and example.

22. (a) Draw detailed pass 2 flow chart of an assembler.
    (b) Give format of all five tables used in assembler.

23. (a) Give specification of databases used in pass 1 and pass 2 of Macroprocessor.
    (b) Explain Macro instructions defining Macros with an example.

24. (a) Explain design of an absolute loader with a neat diagram.
    (b) Give specification of databases used in pass 1 and pass 2 of Direct Linking Loader.

25. (a) Explain different phases of a Compiler with a neat diagram.
    (b) Explain syntax Phase of a Compiler.

SECTION - D

IV. Answer **any one** question. Each question carries **ten** marks.   **1x10=10**

26. (a) Explain the terms macro definition, macro call, macro expansion with syntax and example.   5
    (b) Draw Micro-flow chart for ADD instruction.   5

27. (a) Explain different types of cards used in Direct Linking loader.   5
    (b) Write a note on compile and go loader.   5

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