Sixth Semester B.C.A. Degree Examination, April/May 2019

(CBCS Scheme)

Computer Science

SYSTEM SOFTWARE

Time : 3 Hours]

[Max. Marks : 90

Instructions to Candidates : Answers ALL the Sections.

SECTION – A

Answer any **TEN** of the following.

(10 × 1 = 10)

1. What is a linker?

2. What are the types of subroutines?

3. Define formal systems.

4. Mention the types of assemblers.

5. Give the usage of EQU in assembly program.

6. Give the syntax of macro definition.

7. What are the macro processor pseudo-ops used for conditional macro expansion?

8. Define overlays.

9. Give the functions of loaders.

10. What are relocating loaders?

11. Define literal table.

12. Give the structure of uniform symbol table.

SECTION – B

Answer any **FIVE** of the following.   (5 × 3 = 15)

13. What is assembly language? Give its advantages and disadvantages.

14. Differentiate between compiler and interpreter.

15. Explain assembler directives.

16. What are the basic tasks of macro processor? Explain.

17. Explain compile and go leaders.

18. What is dynamic linking? Explain.

19. Construct parse tree for following arithmetic statements

$$\cos t = rate * (start - finish) + 2 * ralz * (start - finish - 100)$$

SECTION – C

Answer any **SIX** of the following.   (6 × 5 = 30)

20. Give pass-1 overview flow chart for assembler.

21. Explain different databases used in pass-2 assembler.

22. Explain "Macro calls within macros".

23. Write a note on "Macro implementation with in assembler".

24. How loader functions are accomplished in absolute loading scheme? Explain.

25. Give detailed pass-2 flowchart of direct linking loader.

26. Explain structure of compiler with neat diagram.

27. What are the optimization techniques used in compiler design? Explain.

SECTION – D

Answer any **FIVE** of the following.   **(5 × 7 = 35)**

28. Explain general machine structure with a neat diagram.

29. Give algorithm for an assembler for IBM 360.

30. (a)   What are the functions of assembler?

    (b)   What is the input and output of macro processor? Explain with an example.

                                                                                   (3 + 4)

31. Write a note on implementation of a restricted facility (two pass macro algorithm).

32. Explain different cards used in direct linking loaders in detail.

33. (a)   Where is GEST used? And for what?

    (b)   Give the general model of compiler.   **(2 + 5)**

34. Explain lexical phase and syntax phase in detail.

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