

LOYOLA COLLEGE (AUTONOMOUS), CHENNAI – 600 034



B.Sc. DEGREE EXAMINATION – COMPUTER SCIENCE

FIFTH SEMESTER – NOVEMBER 2018

16UCS5ES03 – SYSTEMS PROGRAMMING

Date: 01-11-2018
Time: 09:00-12:00

Dept. No.

Max. : 100 Marks

PART - A

Answer the following

(10x2=20 marks)

1. Define System programs. Give examples.
2. List the functions of Operating System.
3. Define Assembler.
4. What is the purpose of Base Table in assembler design?
5. What are the basic tasks of macro instruction processor?
6. Define Argument List Array.
7. What are 4 types of cards used in direct linking loader schemes?
8. Define Loaders.
9. Define syntax analysis.
10. What are the types of optimizations?

PART - B

Answer All the following

(5x8=40 marks)

11. a) Write in detail about the evolution of the components of a programming system.
(OR)
b) Draw the flow chart for ADD instruction.
12. a) Explain the format of databases used in pass1 of assembler design.
(OR)
b) What are the steps for designing an assembler? Give the format of Machine OP Table.
13. a) Write short notes on macro instructions. Give an example code for macro instruction with arguments.
(OR)
b) Explain conditional macro expansion with example code.
14. a) Write the procedure for designing an absolute loader and draw the flowchart.
(OR)
b) Explain direct linking loader scheme with example program.
15. a) Explain the process of generating intermediate form during compilation.
(OR)
b) Explain lexical analysis phase with example code.

PART-C

Answer any TWO of the following

(2x20=40 marks)

16. a) Explain the general machine structure of IBM 360 with neat diagram.
b) Briefly explain the databases used in pass1 and pass2 of assembler design and draw the flowcharts.
17. a) Explain the two phase implementation of macro processor in detail.
b) Explain any four loader schemes in detail with examples.
18. a) What are the phases of compiler design? Explain each phase in detail.
b) Write all data and instruction formats used in IBM 360 machine. Explain with examples.

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