MCA – 503 SYSTEM PROGRAMMING

UNIT WISE QUESTION FOR IST AND IIND ASSIGNMENT

UNIT - I

1. Explain in detail Software and Machine Architecture?
2. Explain in detail Machine Dependent Assembler Features?
3. Explain Multipass Assembler in detail?
4. Explain Risc Architecture and explain it in detail with a Diagram?
5. Explain SIC/XE Architecture in detail?

UNIT – II

6. Explain in detail Macro processor design Options with implementation example.?
7. Explain Different Types of Loaders in Detail with Implementation Example?
8. Explain Machine Dependent and Independent features of Loader?
9. Explain Machine Dependent and Independent features of Macro Processor?

Unit – III

10. Explain Machine Dependent and Independent features of compiler?
11. Explain in detail Compiler design Options with implementation example?
12. Explain in detail Text editors and Interactive debugging Systems?

Unit – IV

13. Explain in detail Operating System design Options with implementation example?
14. What is Debug Monitors, Explain in Detail? Discuss the functionalities of Interpreter?
15. Define Device Drivers and give its design with its anatomy?
16. Explain general Programming considerations for device drivers?

Unit – V

17. Explain Test data Generator and Design issues of Character Driver?
18. Explain the design issues of A/D Convertors?
19. Explain Test data Generator and Design issues of Block Driver?
20. Explain in detail RAM disk Drivers issues?

Short Answer Questions

1. Write Short notes on RISC Architecture?
2. Explain components of System Software?
3. Write about Translator?
4. Write Short notes on interactive debugging systems?
5. What do u mean by "Expanding a Macro"?
6. What is Two Pass Assembler? Give an Example?
7. Write Short Notes on Different types of Loaders?
8. Write short notes on Linking Editor?
9. Explain program Relocation?
10. What is meant by Early Binding and Late Binding?
11. Explain briefly Dynamic Linking?
12. Write short notes on Recursive Macro Expansion?
13. Write Short notes on Lexical and Syntactical Analysis of Compiler?
14. Explain different phases of Compiler?
15. Write Short notes on Basic compiler Features?
16. What is Kernel? What are the Functions of Kernel?
17. What are the different types of Operating Systems?
18. Write short notes on the Environment of Unix?
19. Write short notes on Device Drivers?
20. Write Short notes on A/D Converter?

12-00-4-02

MASTER OF COMPUTER APPLICATIONS DEGREE EXAMINATION — APRIL/MAY 2018

FOURTH SEMESTER

MCA 402 — SYSTEMS PROGRAMMING

(Under C.B.C.S Revised New Regulations w.e.f. 2016—2017)

(Common Paper to University and all Affiliated Colleges)

Time : 3 hours Max. Marks : 80

PART – A (Compulsory)

Answer any FIVE of the following questions. Each question carries 4 marks.

(Marks : 5 × 4 = 20)

1. (a) Define system software. Briefly explain the types of system software.
   (b) What is object program? With an example explain the records in it.
   (c) Discuss the basic loader functions.
   (d) Explain the recursive macro process.
   (e) Differentiate compilers from interpreters.
   (f) Describe on first edition.
   (g) Brief about the different types of device drivers.
   (h) Give the issues in designing the A/D converter.
   (i) List Linux basic commands with examples.
   (j) Give the functions of Linux Kernal.

PART – B

Answer ONE full question from each Unit. Each question carries 12 marks.

(Marks : 5 × 12 = 60)

UNIT – I

2. (a) Elaborate the CSIC machines. (6)
   (b) Explain Program Relocation with example. (6)

Or

3. (a) Write the sequence of instruction for SIC to perform (6)

   $A = B + C - 1$

   $X = Y + Z - 1$

   (b) State and explain the PASS1 algorithm of an Assembler. (6)

[P.T.O.]

UNIT — II

4. (a) Explain the design of relocation loader with an example. (6)

(b) Describe the conditional macro expansion with example. (6)

Or

5. (a) Write short notes on dynamic linking loader. (6)

(b) Write the macro processing feature of ANSI C programming language. (6)

UNIT – III

6. (a) What is parse tree and explain the methods of generating parse trees with an example. (6)

(b) Explain the overview of an editing process. (6)

Or

7. (a) Describe the machine-dependent compiler features. (6)

(b) Explain the functions and capabilities of an interactive debugging system. (6)

UNIT – IV

8. (a) Explain the issues in character driver-1 device driver. (6)

(b) Give the anatomy of the device driver. (6)

Or

9. (a) Give the benefits of block drivers with its design issues. (6)

(b) What is prologue of device drivers? Explain with example. (6)

UNIT – V

10. (a) With a neat diagram explain the architecture of Linux operating system. (6)

(b) Give the steps in writing and executing shell scripts in linux. (6)

Or

11. (a) Elaborate the need for X-windows in Linux OS. (6)

(b) Write a shell program for finding the factorial of a number. (6)
