

**FOURTH SEMESTER B. TECH. (ENGINEERING) DEGREE
EXAMINATION, JUNE 2010**

CS/IT 04 403 – SYSTEM PROGRAMMING

(2004 Admissions)

Time : Three Hours

Maximum : 100 Marks

Part A

Answer all the questions.

- I. (a) List the data structure used by the assembler and explain the data structure.
(b) List the language processing activities.
(c) Discuss the features of Bootstrap loader.
(d) What is the difference between linkage editor and linkage loader?
(e) What are the merits and demerits of multiprogramming?
(f) Explain the concept of Real-time system.
(g) Explain the system structure of UNIX operating system.
(h) Explain briefly about system concepts.

(8 × 5 = 40 marks)

Part B

- II. (a) Explain in detail the architecture of a SIC and SIC/XE machine.

(15 marks)

Or

- (b) Writes short notes on :
(i) Data formats and instruction formats.
(ii) I/O programming.

(10 + 5 = 15 marks)

- III. (a) With examples, explain the machine independent features of a loader.

Or

- (b) With diagrams, explain how loading and calling of a subroutine is done using dynamic linking.

(15 marks)

Turn over

IV. (a) Explain in detail about computer system structure.

Or

(b) What is virtual machine? What are the merits and demerits of virtual machine?

(15 marks)

V. (a) Explain all the services that were discussed in the UNIX operating system.

Or

(b) Explain the hardware assumptions and system concepts.

Time : Three Hours

(15 marks)

[4 × 15 = 60 marks]

Part A

Answer all the questions.

- I. (a) List the data structure used by the assembler and explain the data structure.
- (b) List the language processing activities.
- (c) Discuss the features of Bootstrap loader.
- (d) What is the difference between linkage editor and linkage loader?
- (e) What are the merits and demerits of multiprogramming?
- (f) Explain the concept of Real-time system.
- (g) Explain the system structure of UNIX operating system.
- (h) Explain briefly about system concepts.

(8 × 5 = 40 marks)

Part B

II. (a) Explain in detail the architecture of a SIC and SIOXE machine.

(15 marks)

Or

(b) Write short notes on :

- (i) Data formats and instruction formats.
- (ii) I/O programming.

(10 + 5 = 15 marks)

III. (a) With examples, explain the machine independent features of a loader.

Or

(b) With diagrams, explain how loading and calling of a subroutine is done using dynamic linking.

(15 marks)

Turn over