Roll No. ..... Total Pages : 2

BT-5/D-22 **45172**

COMPUTER ORGANIZATION AND ARCHITECTURE

Paper–PC-CS-307-A

Time : Three Hours] [Maximum Marks : 75

Note : Attempt *five* questions in all, selecting atleast *one* question from each Unit.

UNIT-I

1. Explain the following computer algorithms with the help of flowcharts :

(a) Divison alogrithm using non-restoring method. (8)

(b) Booth's multiplication algorithm. (7)

2. (a) What is virtual memory? Explain paging scheme of memory organization. (7)

(b) What is associative memory? Explain its working with suitable diagram. (8)

UNIT-II

3. (a) What is instruction? Explain instruction cycle of a computer with flow chart. (8)

(b) What are different CPU registers? Explain their purpose and functions. (7)

4. (a) What is interrupt? What are different types of interrupts? Also, explain interrupt cycle. (7)

(b) What is microprogrammed control unit? Explain working of microprogram sequencer with suitable diagram. (8)

UNIT-III

5. (a) What is GPR based CPU organization? Also discuss the instruction formats required for this organization. (8)

(b) Explain displacement based addressing modes along with their applications. (7)

6. Explain the following :

(a) Instruction pipeline. (5)

(b) Array processor. (5)

(c) Vector processor. (5)

UNIT-IV

7. (a) What is I/O interface? Explain its need. (5)

(b) Differentiate between memory mapped I/O and isolated I/O addressing schemes. (5)

(c) What is handshaking? Explain 3-way handshaking. (5)

8. (a) What is priority interrupt?. Explain priority interrupt structure. (5)

(b) Explain different modes of data transfer in DMA. (5)

(c) Explain about CPU-IOP communication. (5)