

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)