

Roll No. ....

Printed Pages : 2

**35116**

**BT-5 / D-19**

## **COMPUTER ORGANISATION AND ARCHITECTURE**

**Paper--CSE-307N**

*Time allowed : 3 hours]*

*[Maximum marks : 75*

**Note:-** Attempt Five questions in all, selecting at least One question from each unit.

### **Unit-I**

1. (a) What is computer architecture? Discuss the evolution of computer architecture. 7
- (b) Devise an algorithm for division of two integers using restoring method. 8
2. (a) Devise an algorithm for addition and subtraction of two integers represented in sign-magnitude representation. 7
- (b) What is normalized floating-point representation of numbers? Explain IEEE standard for representing floating-point numbers. 8

### **Unit-II**

3. (a) What are typical registers in a computer organization? Explain their purpose. 7
- (b) What is microinstruction? Explain different formats-for microinstructions along with pros and cons. 8
4. (a) What are register reference instructions? Explain their fetch-decode-execute cycle. 7

**35116**

**Previous Pathshala**

[Turn over

(2)

- (d) What is control unit? Explain the working of microprogrammed control unit with its block diagram.

8

### Unit-III

5. (a) Explain GPR based CPU organization with suitable diagram. Also explain the instruction formats of this organization. 7  
(b) What are indirect and register indirect addressing modes? Also explain their applications. 8
6. (a) What is instruction level parallelism? Explain the working of instruction pipeline with time-space diagram. 7  
(b) What is vector processing? Explain any four vector instructions with examples. 8

### Unit-IV

7. (a) Why do you need separate I/O interface? Draw the block diagram of I/O interface and explain its working. 7  
(b) What is handshaking? Explain source-initiated handshaking with timing diagram. 8
8. (a) What is priority interrupt? Explain working of daisy chain with suitable diagram. 7  
(b) What is IOP? Explain its working with suitable diagram. 8

8