

Reg. No \_\_\_\_\_

Name \_\_\_\_\_

## **FIFTH SEMESTER B.TECH DEGREE EXAMINATION**

**Branch: Electrical & Electronics Engineering**

**13.506.6 Computer Organization (E)**

**Time: 3 Hours**

**Max. Marks: 100**

*Answer all questions*

### **Part – A**

1. What are the various types of instruction formats available? Give examples.
2. Differentiate between various types of buses.
3. What is meant by an instruction cycle? Discuss its two phases.
4. Explain the architecture of a 4 bit adder/subtractor circuit
5. Differentiate between hardwired and micro programmed control unit
6. What do you mean by interrupt masking? Discuss advantages of it.
7. Discuss the steps involved in interfacing I/O devices to processor.
8. What is meant by memory interleaving? Explain
9. Discuss various types of parallel computer architectures.
10. Explain the concept of multi programming and multiprocessing.

**(10×2 marks=20 marks)**

### **Part – B**

#### **Module I**

11. Explain various types of addressing modes with suitable examples **(10 marks)**
12. With the help of suitable diagrams explain single bus and multi bus CPU organization **(10 marks)**

**OR**

13. With the help of a block schematic explain the basic organizational units of a computer **(10 marks)**

14. Discuss the steps involved in the execution of a complete instruction with the help of an example **(10 marks)**

### **Module II**

15. Explain the working of a carry look ahead adder circuit. **(10 marks)**  
16. With the help of an example explain how Booths multiplication algorithm works **(10 marks)**

### **OR**

17. Explain the design and working of micro programmed control unit **(10 marks)**  
18. Explain the working of hard wired control unit **(10 marks)**

### **Module III**

19. Explain how various devices are connected in Daisy chain scheme and interrupts are processed. **(10 marks)**  
20. Discuss the advantages and disadvantages of setting interrupt priorities **(10 marks)**

### **OR**

21. Explain DMA method of data transfer in detail. **(10 marks)**  
22. Discuss in detail about PCI bus architecture **(10 marks)**

### **Module IV**

23. Explain the principle of operation of cache memory **(10 marks)**  
24. Explain various types of memories used by a computer system **(10 marks)**  
**OR**  
25. Discuss principle of operation of a RISC computer **(10 marks)**  
26. Write a note on (a) Pipelining (b) Bit-Slice architecture **(10 marks)**