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Roll No. : .....

**328675(28)**

**B. E. (Sixth Semester) Examination, April-May 2021**

**(New Scheme)**

**(Et&T Branch)**

**COMPUTER ORGANIZATION & ARCHITECTURE**

**(Professional Elective-I)**

***Time Allowed : Three hours***

***Maximum Marks : 80***

***Minimum Pass Marks : 28***

***Note : Part (a) of the entire question is compulsory.***

***Part (a) carries 2 marks. Attempt any two parts from part (b), (c) and (d). Part (b), (c) and (d) carries 7 marks.***

**Unit-I**

1. (a) Draw the basic functional units of a computer. 2
- (b) Explain memory locations and addressess. 7

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- (c) Discuss about different types of addressing modes. 7
- (d) Explain in detail about different instruction types and instruction sequencing. 7

**Unit-II**

- 2. (a) What is control store? 2
- (b) Draw and explain typical hardware control unit. 7
- (c) Write short notes on :
  - (i) Micro instruction format
  - (ii) Symbolic micro instruction 7
- (d) Draw and explain about micro program control unit. 7

**Unit-III**

- 3. (a) Draw a diagram to implement manual multiplication algorithm. 2
- (b) Explain in detail about different instruction types and instruction sequencing. 7
- (c) How floating point addition is implemented? Explain briefly with a neat diagram. 7
- (d) Write an algorithm for the division of floating point number and illustrate with an example. 7

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**Unit-IV**

- 4. (a) List out the types of interrupts. 2
- (b) Explain with the block diagram the DMA transfer in a computer system. 7
- (c) Discuss the design of a typical input or output interface. 7
- (d) Explain the action carried out by the processor after occurrence of an interrupt. 7

**Unit-V**

- 5. (a) What is memory interleaving? 2
- (b) Illustrate the characteristics of some common memory technologies. 7
- (c) Describe in detail about associative memory. 7
- (d) What do you mean by virtual memory? Discuss how paging helps in implementing virtual memory? 7