Code No: **R1631041**

R16

SET - 1

III B. Tech I Semester Supplementary Examinations, August - 2021
COMPUTER ARCHITECTURE AND ORGANIZATION
(Electronics and Communication Engineering)

Time: 3 hours   Max. Marks: 70

Note: 1. Question Paper consists of two parts (**Part-A** and **Part-B)**
2. Answer **ALL** the question in **Part-A**
3. Answer any **FOUR** Questions from **Part-B**
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PART –A   **(14 Marks)**

1. a) What are the uses of system software?   [2M]
   b) What is an assembly language?   [2M]
   c) What is meant by branch instruction?   [2M]
   d) What is PCI? Explain.   [3M]
   e) What are the characteristics of semiconductor RAM memories?   [3M]
   f) What is micro programmed control?   [2M]

PART –B   **(56 Marks)**

2. a) Draw the CPU organization and explain the basic functional units   [7M]
      of a computer.
   b) Explain, how the performance of modern computers is measured?   [7M]

3. a) Discuss about the basic instruction types.   [7M]
   b) Explain the role of Stacks and Queues in computer programming   [7M]
      equation.

4. a) Explain Booth's algorithm. Apply Booth's algorithm to multiply the [7M]
      two decimal numbers.
   b) With a neat flowchart, explain floating point division.   [7M]

5. a) Explain about Peripheral Component Interconnect (PCI) Bus.   [7M]
   b) Distinguish between Synchronous Bus and Asynchronous Bus.   [7M]

6. a) Explain the differences between EPROM and EEPROM.   [7M]
   b) What are the different mapping techniques used in cache   [7M]
      memories? Describe them.

7. a) Explain the basic organization of a micro programmed control   [7M]
      unit and the generation of control signals using micro program.
   b) Define and explain the following: [7M]
          i) Micro operation;   ii) Micro instruction.

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