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 of a computer. [7M]
   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 equation. [7M]

4. a) Explain Booth's algorithm. Apply Booth's algorithm to multiply the two decimal numbers. [7M]
   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 memories? Describe them. [7M]

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

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