

Code: IT4T5

**II B. Tech II Semester Regular/Supplementary Examinations  
October - 2020**

**COMPUTER SYSTEM ARCHITECTURE  
(INFORMATION TECHNOLOGY)**

Duration: 3 hours

Max. Marks: 70

**PART – A**

Answer *all* the questions. All questions carry equal marks

11 x 2 = 22 M

1.

- a) What is the Register transfer language.
- b) What are the micro operation categories?
- c) Explain Instruction code operational part.
- d) What is the use of indirect address instruction?
- e) Write the main advantage of micro programmed control?
- f) What is the purpose of stack pointer?
- g) Write the algorithm for adding numbers in signed-2's complement representation?
- h) Write algorithm for multiplication of two floating –point numbers?
- i) What is handshaking?
- j) What is the use of bits in status register?
- k) Write the difference between synchronous and asynchronous data transmission?

## PART – B

Answer any **THREE** questions. All questions carry equal marks.

3 x 16 = 48 M

2. a) Explain working of three state Bus-Buffers with neat diagram? 10 M
- b) List and Explain logic micro operations. 6 M
3. a) Explain the flow chart for instruction cycle with neat Diagram. 8 M
- b) Explain Branch and Save Return Address. 8 M
4. a) Explain mapping from instruction code to microinstruction address. 6 M
- b) Explain Stack organization in Central Processing Unit. 10 M
5. a) Explain Booth Multiplication Algorithm with flowchart, 2-bit by 2-bit array multiplier with an example. 10 M
- b) Explain about magnetic disk and cache memory. 6 M

6. a) Explain DMA Controller? 8 M

b) Explain CPU-IOP communication with neat diagram. 8 M