

(Please write your Exam Roll No.)

Exam Roll No.

END TERM EXAMINATION

THIRD SEMESTER [BCA] NOV.-DEC. 2018

Paper Code: BCA-203

Subject: Computer Architecture

Time : 3 Hours

Maximum Marks :75

**Note: Attempt any five questions including Q.no.1 which is compulsory.
Select one question from each unit.**

- Q1 Explain following (**any five**) (5x5=25)
- (a) What is register transfer language? Explain with the help of example.
 - (b) Design a 4-bit common bus of four registers.
 - (c) Differentiated between hardwired control and microprogrammed control units.
 - (d) Explain the different instruction formats.
 - (e) What is virtual memory? Explain.
 - (f) How interrupts are handled? Explain

UNIT-I

- Q2 Draw a 4-bit arithmetic circuit which perform all arithmetic operations and explain its functionalities. (12.5)
- Q3 (a) What is instruction cycle? Draw a flowchart for instruction cycle of a basic computer. (6.5)
(b) Explain instruction pipeline. (6)

UNIT-II

- Q4 (a) Explain the different types of addressing modes in basic computer. (6.5)
(b) Draw flow chart for multiplication operation. (6)
- Q5 (a) What is the stack organization CPU? Explain the different stack operations with the help of example. (6.5)
(b) Differentiate between RISC and CISC. (6)

UNIT-III

- Q6 What is asynchronous data transfer? Explain different methods of asynchronous data transfer. (12.5)
- Q7 What is DMA? Draw and Explain the DMA controller in details. (12.5)

UNIT-IV

- Q8 What is an associative memory? Explain the hardware organization of associative memory. (12.5)
- Q9 (a) What is memory hierarchy in a computer system? Draw block diagrams and function tables of RAM and ROM chip. (6.5)
(b) Explain memory interleaving. (6)

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