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-4bit 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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