B.TECH. SEM -VI (COMPUTER) 2014 COURSE (CBCS) :
WINTER - 2017
SUBJECT : COMPUTER ORGANIZATION & ARCHITECTURE

Day : **Thursday**
Date : **23/11/2017**

Time : **10.00 AM TO 01.00 PM**
Max. Marks : 60

W-2017-2196

N.B.:

1) All questions are **COMPULSORY**.
2) Figures to the right indicate **FULL** marks.

Q.1 **a)** Explain properties of RISC architecture. **[05]**
b) Describe in detail difficulties involved in instruction pipelining. **[05]**

OR

a) Explain functional units of computer. **[05]**
b) Compare RISC and CISC. **[05]**

Q.2 **a)** Represent the following in single precision format: **[05]**
i) – 2.5 **ii)** 15
b) Describe the techniques for speeding up Non-Restoring the multiplication operation. **[05]**

OR

a) Perform non-restoring division for the following: **[05]**
Dividend : 1011 Divisor : 0011.
b) Explain with suitable examples IEEE standard used for representing floating point numbers. Also explain guard bits. **[05]**

Q.3 **a)** Write the control sequence for an SUB R_1, R_2. **[05]**
b) Differentiate between Hardwired and Micro-programmed control. **[05]**

OR

a) Using input output gating for the registers in single bus organization explain operation of fetching a word from memory. **[05]**
b) Draw and explain multiple bus organization of processor unit with neat diagram. **[05]**

Q.4 **a)** Compare programmed I/O and interrupt driven I/O techniques of data transfer. **[05]**
b) What are the methods of Bus Arbitration? Explain polling method of bus arbitration with diagram. **[05]**

OR

Explain the following terms with respect to interrupt handling. **[10]**

Q.5 **a)** Explain need of 'refreshing' in case of DRAM. **[05]**
b) Describe the concept of set associative mapping with respect to cache memory. **[05]**

OR

a) Explain the concept of interleaving with neat diagram. **[05]**
b) Elaborate the use of TLB in virtual memory. **[05]**

Q.6 **a)** Describe in detail Flym's classification for multiprocessor system. **[05]**
b) Enlist differences between closely coupled and loosely coupled systems. **[05]**

OR

a) Discuss in detail problems involved in BIOS contentions. **[05]**
b) Write a short note on: Interprocess communication. **[05]**

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