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[5252]-572

**S.E. (Information Technology) (First Semester)**

**EXAMINATION, 2017**

**COMPUTER ORGANIZATION AND ARCHITECTURE**

**(2015 COURSE)**

**Time : Two Hours**

**Maximum Marks : 50**

**N.B. :—** (i) All questions are compulsory.

(ii) Figures of the right indicate full marks.

1. (A) Multiply 101011 by 110011 using Booth's algorithm. [6]

(B) Explain any *two* addressing modes with suitable diagrams and example. [6]

*Or*

2. (A) Which are the different instruction cycle states of a processor ? Explain. [6]

(B) Perform the division using non-restoring method  $22/3$ . [6]

3. (A) Explain Single Bus Processor Organization with diagram. [7]

(B) Explain any *one* type of cache mapping technique with diagram. [6]

P.T.O.

*Or*

4. (A) What are the functions of control unit ? Explain control unit with block diagram. [7]
- (B) How virtual memory is managed using paging and TLB ? [6]

5. (A) Which are the different stages in 5 stage pipeline ? [6]
- (B) Explain events of Fetch cycle of MIPS pipeline. [6]

*Or*

6. (A) What are the Hazards in pipeline architecture ? Explain its types. [6]
- (B) Which are the basic performance issues in pipelining ? [6]

7. (A) Write short note on cluster configuration. [6]
- (B) Write a note on Multicore Architectures. [7]

*Or*

8. (A) Explain closely coupled and loosely coupled microprocessor systems. [7]
- (B) What is Flynn's Taxonomy for Multiprocessor Organizations ? Explain with diagram. [6]