

Total No. of Questions—8]

[Total No. of Printed Pages—2

Seat No.	
-------------	--

[5152]-572

**S.E. (Information Technology) (I Sem.) EXAMINATION, 2017**  
**COMPUTER ORGANIZATION AND ARCHITECTURE**  
**(2015 PATTERN)**

**Time : Two Hours**

**Maximum Marks : 50**

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

(ii) Figures to the right indicate full marks.

(iii) Neat diagrams must be drawn wherever necessary.

1. (a) Multiply 101011 by 110011 using Booth's algorithm [6]  
(b) List different addressing modes and explain any *two* with suitable diagrams and example. [6]

*Or*

2. (a) Draw diagram of instruction cycle states of a processor and explain. [6]  
(b) Perform the division using non-restoring method 22/3. [6]

3. (a) Draw diagram of single bus processor organization and explain. [7]  
(b) Explain any *one* type of cache mapping technique with diagram. [6]

*Or*

4. (a) Explain micro programmed control unit along with block diagram. [7]  
(b) How virtual memory is managed using paging and TLB ? [6]

P.T.O.

5. (a) What are the hazards in pipeline architecture ? Explain its types. [6]  
(b) Explain events of Execute cycle of MIPS pipeline. [6]

*Or*

6. (a) Explain events of Fetch cycle of MIPS pipeline. [6]  
(b) Which are the different stages in 5 stage pipeline ? [6]
7. (a) What is cluster computing ? What are the types of clustering ? [6]  
(b) Write a note on multicore architecture. [7]

*Or*

8. (a) Explain closely coupled and loosely coupled microprocessor system. [7]  
(b) What is Flynn's taxonomy for multiple processor organizations ? Explain with diagram. [6]