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Reg. No. : .....

Name : .....

Third Semester B.Tech. Degree Examination, January 2015
(2008 Scheme)
08.306 : COMPUTER ORGANIZATION (R, F)

Time : 3 Hours Max. Marks : 100

PART – A

(Answer **all** questions. **Each** question carries **4** marks)

1. Will memory access time depend on the location of word where it is stored ? Explain your answer.
2. What is instruction register ? Why is its output given to control unit ?
3. Given the word length of memory is 32-bits and address bus is 64-bits, calculate the size of the memory.
4. What is the significance of link register in subroutine execution ?
5. Distinguish between I/O mapped I/O and memory mapped I/O.
6. How does asynchronous bus work ?
7. Bring out three mechanisms for implementing I/O operations.
8. Depict the role of MAR and MDR in memory operations.
9. What is virtual memory and what is its need ?
10. Write short notes on flash memory. **(10×4=40 Marks)**

PART – B

(Answer **any one** question from **each** Module. **Each** question carries **20** marks)

Module – I

11. a) Explain functional units of a computer with a neat diagram. **15**
    b) Illustrate register transfer notation. **5**

OR

12. a) Explain various addressing modes. **10**
    b) Is MS Word a system software ? Explain your answer. **5**
    c) Is it possible to implement queue using 2 stacks ? Explain. **5**

P.T.O.

Module – II

13. a) Explain multiple bus organization. 10

    b) Explain the working of DMA with a neat diagram. 10

OR

14. a) What is bus arbitration ? Give a classification scheme for different bus arbitration techniques. 15

    b) What is the difference between the working of parallel and serial ports. 5

Module – III

15. a) What are the different types of RAMs available ? Explain the characteristics and working of each. 15

    b) Why is locality of reference considered to be a basic principle of cache memory ? 5

OR

16. a) In a cache, direct mapping is used. Size of main memory is 512 MB and size of cache memory is 1 MB. Size of memory block is 10 KB. Find out the cache memory block number into which main memory block 100 maps. 5

    b) What is the difference between segmentation and paging. 5

    c) Explain RAID mechanism of storage. 10

(3×20=60 Marks)