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C14–CM–304/C14–IT–304

4234

BOARD DIPLOMA EXAMINATION, (C–14)

OCT/NOV—2015

DCME—THIRD SEMESTER EXAMINATION

COMPUTER ORGANIZATION

Time : 3 hours] [*Total Marks* : 80

PART—A 3×10=30

Instructions : (1) Answer **all** questions.

(2) Each question carries **three** marks.

(3) Answers should be brief and straight to the point and shall not exceed *five* simple sentences.

1. Define stored program concept. 3

2. Write any three differences between fixed point and floating point representation. 3

3. List the types of information representations in a computer. 3

4. Draw the flowchart for fixed point multiplication. 3

5. Write about floating point addition. 3

6. Distinguish between auxiliary memory and cache memory. 3

7. State the need for an I/O interface. 3

8. List the different modes of data transfer. 3

9. Write the advantages of DMA controlled data transfer. 3

10. List out the Flynn's classification of parallel processing. 3

PART—B 10×5=50

Instructions : (1) Answer *any* **five** questions.

(2) Each question carries **ten** marks.

(3) Answers should be comprehensive and the criterion for valuation is the content but not the length of the answer.

11. Draw the block diagram of accumulator-based CPU and explain the function of each unit. 10

12. Draw and explain the flowchart for showing the sequence of operations representing the fixed point addition and subtraction. 10

13. Explain floating point multiplication with flowchart. 10

14. *(a)* Explain about access rate, access time and performance of storage.

(b) Explain one and two address instructions with examples. 6+4

15. Explain the principle of memory interleaving in a computer. 10

16. *(a)* Explain the interrupt initiated I/O data transfer.

(b) Explain about asynchronous data transfer. 5+5

17. What is a bus system? Explain about various bus systems with the help of diagrams. 10

18. *(a)* Write about the fetch cycle and execute cycle.

(b) Describe the advantages of parallel processing and pipeline processing. 4+6

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