C14–CM–304/C14–IT–304

4234

BOARD DIPLOMA EXAMINATION, (C–14)
OCT/NOV—2016
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.

2. Define fixed point representation of numbers.

3. Explain the instruction format used in stack-based computer.

4. Draw the flowchart for fixed point addition.

5. Draw the flowchart for floating point addition.

6. Write any three advantages of cache memory organization.

7. Explain the need for an interface.

8. Explain source-initiated data transfer using handshaking.

9. Define polling.

10. Define parallel processing.

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 functional block diagram of digital computer and explain the functions of each unit.

12. *(a)* Define instruction cycle, fetch cycle and execution cycle. 5

(b) Explain any five addressing modes. 5

13. Explain the fixed point division operation with flowchart.

14. Explain the floating point multiplication operation with flowchart.

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

16. Explain DMA controlled transfer.

17. Explain interrupt initiated I/O method of data transfer.

18. *(a)* Explain various memory device characteristics. 5

(b) Explain arithmetic instruction pipeline. 5

★ ★ ★