C16-CM-302/C16-IT-302

## 6228

# BOARD DIPLOMA EXAMINATION, (C-16) OCT/NOV—2017 <br> DCME-THIRD SEMESTER EXAMINATION 

DIGITAL ELECTRONICS AND COMPUTER ARCHITECTURE

## Time : 3 hours ]

[ Total Marks : 80

PART-A
$10 \times 3=30$
Instructions : (1) Answer all questions.
(2) Each questan carries three marks.
(3) Answers should be brief and straight to the point and shallot exceed five simple sentences.

1. Define Exclusive OR gate. Give its truth table
2. State DAMorgan's laws
3. Write differences between edge triggering and level triggering in flip fôps.
4. State the applications of counters.
5. Define multiplexer. Give block diagram of $2 \times 1$ multiplexer.
6. Draw the block diagram of digital computer.
7. What are operand, opcode and address?
8. Differentiate between register and register indirect addressing modes.
9. List various memory device charactertics.
10. What is interrupt initiated $\mathrm{I} / \mathrm{O}$ ?

PART-B
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. Explain the operation of 4-bit digital Comparator.
12. Implement RS latch using NAAD and NOR gates and explain with truth tables.
13. Explain the working of Serial in serial out and serial in parallel out registers.
14. (a) Write about 4-bit ring counter.
(b) What js? decoder? Explain with an example
15. Explaint sequential execution of program stored in memory by CPU
16. Explain fixed point multiplication with an example
17. (a) Write about principle and advantage of cache memory.
(b) Give two address instruction for $(\mathrm{A}+\mathrm{B})^{*}(\mathrm{C}+\mathrm{D})$
18. Explain in detail about DMA controlled data transfer.

