C16-**CM/IT-302**

6228

BOARD DIPLOMA EXAMINATIONS

OCT/NOV-2019

DCME – THIRD SEMESTER

DIGITAL ELECTRONICS & COMPUTER ARCHITECTURE

Time: 3 hours Max. Marks: 80

PART – A **3 X 10 = 30**

Instructions: *1. Answer **all** questions.*
*2. Each question carries **Three** Marks.*
3. Answer should be brief and straight to the point and should not exceed Five simple sentences.

1. Define OR gate. Give its truth table.
2. State Demorgan's Theorem's.
3. Define positive and negative logic levels.
4. Define counter. Give its applications.
5. List applications of De multiplexer.
6. What is stored program concept?
7. List basic types of information representation in computers.
8. Define opcode, operand and address.
9. Give memory hierarchy in computers.
10. Define interface. What is its need?

[cont..,

PART – B 5 X 10 = 50

Instructions: *1. Answer any **Five** questions*
*2. Each question carries **TEN** Marks.*
3. Answer should be comprehensive and Criteria for Valuation is the content but not the length of the answer.

11. What is Full Adder? Explain in detail.

12. Explain about Master-Slave JK flop in detail.

13. Draw and explain decade counter.

14. a) Explain how to implement shift register as memory. 5M

    b) Construct and explain 4 x 1 multiplexer. 5M

15. Write about instruction cycle, fetch cycle and execution cycle in detail.

16. Write about various addressing modes with examples.

17. a) Write about associative memory. 5M

    b) Give one address instructions for (A+B) * (C+D). 5M

18. Explain in detail about interrupt initiated I/O data transfer.