

## с16-см-302/с16-іт-302

## 6228

## BOARD DIPLOMA EXAMINATION, (C-16)

### **OCT/NOV**—2017

#### DCME—THIRD SEMESTER EXAMINATION

DIGITAL ELECTRONICS AND COMPUTER ARCHITECTURE

Time : 3 hours ]

[ Total Marks : 80

# PART-A

10×3=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 Exclusive OR gate. Give its truth table
- 2. State DeMorgan's laws
- **3.** Write differences between edge triggering and level triggering in flip flops.
- **4.** State the applications of counters.
- **5.** Define multiplexer. Give block diagram of 2×1 multiplexer.
- **6.** Draw the block diagram of digital computer.
- 7. What are operand, opcode and address?
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- **8.** Differentiate between register and register indirect addressing modes.
- 9. List various memory device charactertics.
- **10.** What is interrupt initiated I/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 NAND 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.5(b) What is decoder? Explain with an example5
- **15.** Explain 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 (A+B)\*(C+D)
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- **18.** Explain in detail about DMA controlled data transfer.

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