

**F.Y.B.SC. (Computer Science) SEM –II (2014 COURSE) : WINTER -
2018**

SUBJECT : DIGITAL ELECTRONICS – II

Day : Tuesday
Date : 23/10/2018

W-2018-0951

Time : 03.00 PM TO 05.00 PM
Max. Marks : 40

N.B.:

- 1) All questions are **COMPULSORY**.
 - 2) Figures to the right indicate **FULL** marks.
 - 3) Draw neat and labeled diagrams **WHEREVER** necessary.
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Q.1 Answer **ANY TWO** of the following: [10]

- a) Draw logic diagram of R-S flip-flop using NAND gates and explain it with truth table.
- b) Explain the working of 3-bit asynchronous down counter with necessary diagram.
- c) Give the classification of memory. Explain the concept of diode matrix ROM.

Q.2 Answer **ANY TWO** of the following: [10]

- a) Explain the working of IC 7490 as a decade counter along with timing diagram.
- b) With necessary diagram explain working of 3-bit parallel-in-parallel-out shift register.
- c) Explain the working of J-K flip-flop with diagram and truth table.

Q.3 Answer **ANY TWO** of the following: [10]

- a) Draw internal block diagram of IC 555 and explain it in brief.
- b) Explain T and D-flip-flops with respect to logic diagram, symbol and truth table.
- c) Explain the working of monostable multivibrator with necessary diagram.

Q.4 Answer **ANY FIVE** of the following: [10]

- a) Define the following terms related to memory: i) Speed ii) Capacity.
- b) What is race-around condition in J-K flip-flop? How is it avoided?
- c) State any two applications of counters.
- d) Define modulus of a counter. How many flip – flops are required for MOD 3 counter.
- e) What do you mean by quasi-stable state in multivibrator?
- f) What is a shift register? State its types.
- g) What is PROM and EPROM? State the difference between them.

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