

F.Y.B.SC. (COMPUTER SCIENCE) SEM –II (2014 COURSE) :
WINTER - 2017

SUBJECT : DIGITAL ELECTRONICS – II

Day : **Tuesday**
Date : **07/11/2017**

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

W-2017-0741

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) Explain the working of Mod – 5 counter using IC 7490 counter with necessary diagram.
- b) Write a note on diode matrix ROM.
- c) Explain the working of J-K flip-flop with diagram and truth table.

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

- a) What is a multivibrator? Draw input, output waveforms of bistable and monostable multivibrator.
- b) With necessary diagram explain the working of 3-bit synchronous counter.
- c) Draw and explain the working of R-S flip-flop using NAND gates.

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

- a) With necessary diagram explain the working of 3-bit shift-left register.
- b) Explain the action of 4-bit ring counter with necessary diagram and truth table.
- c) Explain the following flip-flops with respect to logic diagram, symbol and truth table: i) T- flip - flop ii) D - flip - flop.

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

- a) Define modulus of a counter. Find the number of flip-flops required for MOD -10 counter.
- b) A 555 timer is connected for monostable operation. If $R = 10k\Omega$ and $C = 0.022\mu F$, what is the width of the output pulse?
- c) What is a flip-flop? State any two uses of it.
- d) What is PROM and EPROM?
- e) Define Preset and Clear terminals of flip-flop.
- f) Differentiate between edge triggering and level triggering.
- g) State types of shift registers.

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