Reg. No. : ☐☐☐☐☐☐☐☐☐☐☐☐

Question Paper Code : 31353

B.E./B.Tech. DEGREE EXAMINATION, NOVEMBER/DECEMBER 2013.

Third Semester

Electronics and Communication Engineering

EC 2203/EC 34/080290010/10144 EC 304 — DIGITAL ELECTRONICS

(Regulation 2008/2010)

(Common to PTEC 2203 – Digital Electronics for B.E. (Part–Time) Third Semester –
Electronics and Communication Engineering Regulation 2009)

Time : Three hours   Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1.   State Distributive Law.

2.   What is Prime Implicant?

3.   Enumerate some of the combinational circuits.

4.   List out various applications of Multiplexer.

5.   Define: Latches.

6.   Write short notes on Digital Clock.

7.   What is Volatile and Non-Volatile memory?

8.   Give the advantages of RAM.

9.   What is Synchronous Sequential Circuit?

10. Write short notes on Hazards.

PART B — (5 × 16 = 80 marks)

11. (a) (i) Simplify $xy + x'z + yz$. (6)

(ii) Simplify the following expression using K-map method.
$Y = \sum m(7,9,10,11,12,13,14,15)$. (10)

Or

(b) (i) Write short notes on don't care conditions. (6)

(ii) Explain about NAND and NOR implementations. (10)

12. (a) Draw the logic diagram of BCD – Decimal decoder and explain its operations. (16)

Or

(b) Draw the block schematic of Magnitude Comparator and explain its operations. (16)

13. (a) (i) Draw the block diagram of SR–FF and explain. (6)
(ii) Explain about triggering of flip-flops. (10)

Or

(b) Draw the block schematic of up-down counter and explain its operation. (16)

14. (a) Discuss in detail about the classifications of memories. (16)

Or

(b) Discuss in detail about the FPGA with suitable diagrams. (16)

15. (a) Design a serial binary adder using delay flip-flop. (16)

Or

(b) List out various problems arises in asynchronous circuits. Explain any two problems in detail. (16)

———————

31353