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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)