Reg. No. : | | | | | | | | | | | | |

Question Paper Code : 11526

B.E./B.Tech. DEGREE EXAMINATION, NOVEMBER/DECEMBER 2012.

Fourth Semester

Mechanical Engineering

ME 2255/147406/ME 46/EC 1265/10122 ME 406/080120019 — ELECTRONICS AND MICROPROCESSORS

(Common to Automobile Engineering, Production Engineering, Mechanical and Automation Engineering)

(Regulation 2008)

Time : Three hours | Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. Define breakdown voltage.

2. Write about the reverse bias characteristics of Zener diode.

3. Write the advantages of using transistors.

4. What is meant by current amplification factor?

5. Draw the truth table for AND gate.

6. Draw the truth table for D-flipflop.

7. List the types of instructions in 8085 microprocessor according to word size.

8. Write the function of 32nd pin of 8085 microprocessor.

9. State the merit of interfacing.

10. What are the important parts of 8255 functional block diagram?

PART B — (5 × 16 = 80 marks)

11. (a) With circuit diagrams and VI characteristics explain the forward bias and reverse bias of PN junction diode. (16)

Or

(b) With circuit diagrams and necessary equations describe the working of half wave rectifier and full wave rectifier. (16)

12. (a) With suitable diagrams explain the working of NPN transistor and PNP transistor. (16)

Or

(b) With circuit diagrams and characteristics explain the working of Class A and Class B amplifiers. (16)

13. (a) Draw the symbol, IEC sign and truth table for NOT gate, NAND gate, OR gate, NOR gate and EX-OR gate. (16)

Or

(b) Explain the working of half adder and full adder with logic diagrams and truth tables. (16)

14. (a) Explain the elements of 8085 microprocessor with architectural diagram. (16)

Or

(b) With examples explain the five types of addressing modes of 8085 microprocessor. (16)

15. (a) Describe the suitable application of micro processor with excitation table, interfacing diagram and assembly language program for a stepper motor. (16)

Or

(b) With suitable assembly language program explain the application of microprocessor in temperature control. (16)