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Question Paper Code : 10415

B.E./B.Tech. DEGREE EXAMINATION, MAY/JUNE 2012.

Fourth Semester

Mechanical Engineering

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

(Common to Automobile Engineering and Production Engineering)

(Regulation 2008)

Time : Three hours   Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. Define Rectificaton.

2. Define Voltage Regulation.

3. What is the need for transistor biasing?

4. Draw the transfer characteristics of FET.

5. What are Flip flops?

6. Draw a Half adder circuit.

7. List the various instruction types in 8085.

8. What are the various addressing modes in 8085?

9. What do you mean by interfacing?

10. List out some applications of the microprocessors.

PART B — (5 × 16 = 80 marks)

11. (a) (i) Draw and explain the circuit of a full wave rectifier.   (8)

        (ii) Discuss about intrinsic and extrinsic semiconductors.   (8)

Or

    (b) (i) What do you mean by zener effect? Explain the characteristics of zener diode.   (6)

        (ii) Explain how zener diode is used as a voltage regulator.   (10)

12. (a) (i) Draw and explain the circuit of a Class B Pushpull power amplifier. (10)

(ii) What do you mean by negative feedback? List the characteristics and advantages of a negative feed back amplifier. (6)

Or

(b) Draw and explain the Characteristic of a FET amplifier and discuss its merits and applications. (16)

13. (a) (i) Design a Full adder. (10)

(ii) Discuss the operation of RS flip flop and D flip flop. (6)

Or

(b) Draw and explain the operation of A/D and D/A Converters. (16)

14. (a) Sketch the architecture of 8085 and explain the modules in detail. (16)

Or

(b) With examples, explain the Data transfer instructions and arithmetic instructions of 8085. (16)

15. (a) Draw and explain the block diagram and operation of temperature controlling system with a microprocessor. (16)

Or

(b) Draw and explain the block diagram and operation of Traffic light controller with a microprocessor. (16)

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