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

Question Paper Code : 52844

B.E./B.Tech. DEGREE EXAMINATION, NOVEMBER/DECEMBER 2017
Third/Fourth Semester
Automobile Engineering
ME 2255 – ELECTRONICS AND MICROPROCESSORS
(Common to Mechanical Engineering/Mechanical and Automation Engineering/ Production Engineering)
(Regulations 2008)

Time : Three Hours | Maximum : 100 Marks

Answer ALL questions.

PART – A (10×2=20 Marks)

1. Define doping.
2. What is p-type semiconductor ?
3. What is the importance transistor biasing ?
4. Draw the V-I characteristic of Triac.
5. State De Morgan's theorem.
6. Reduce A'B'C' + A'BC' +A'BC.
7. Write about the sign flag of 8085.
8. What is the addressing mode of the instruction - MOV A, M ?
9. Explain IN and OUT instruction of 8085.
10. List some application of microprocessor 8085.

PART – B (5×16=80 Marks)

11. a) i) Explain the V-I characteristics of PN diode with neat diagram. (8)
ii) Explain the V-I characteristics of zener diode with neat diagram. (8)

(OR)

b) Explain the half wave, full wave and bridge full wave rectifier circuit with necessary diagram. (16)

12. a) Explain the construction, working and volt-ampere characteristics of UJT. **(16)**

(OR)

b) Explain the Common Emitter and Common Base configuration and derive the relation between α and β. **(16)**

13. a) Design a 3-bit Asynchronous Binary Counter using JK flip flop. **(16)**

(OR)

b) Explain with necessary diagram the four basic shift registers. **(16)**

14. a) Explain the architecture of 8085 with neat diagram. **(16)**

(OR)

b) Explain the pin configuration of 8085 with pin diagram. **(16)**

15. a) Explain the interfacing diagram of 8085 with stepper motor, with assembly language code. **(16)**

(OR)

b) Design a microprocessor system to control traffic lights. **(16)**