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

Question Paper Code : 42847

B.E./B.Tech. DEGREE EXAMINATION, APRIL/MAY 2018

Fourth Semester

Mechanical Engineering

ME 2255 – ELECTRONICS AND MICROPROCESSORS

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

(Regulations 2008)

Time : Three Hours | Maximum : 100 Marks

Answer ALL questions.

PART – A **(10×2=20 Marks)**

1. Define doping.
2. Draw the symbol of zener diode and explain Zener voltage.
3. What is the importance transistor biasing ?
4. Draw the V-I characteristics of UJT.
5. State De Morgan's theorem.
6. Reduce A 'BC' + A 'BC.
7. Write about the zero flag of 8085.
8. What is the addressing mode of the instruction - LDA 4000.
9. Explain IN and OUT instruction of 8085.
10. List some applications of microprocessor 8085.

PART – B **(5×16=80 Marks)**

11. a) i) Explain the V-I characteristics of PN junction diode with diagram. **(8)**

ii) Explain the V-I characteristics of Zener diode with diagram. **(8)**

(OR)

b) Explain the half wave, full wave and bridge full wave rectifier circuit with diagrams. **(6+6+4)**

12. a) Explain the construction, working and volt-ampere characteristics of SCR.

(OR)

b) Explain the various biasing circuits of transistors.

13. a) With block diagram, explain successive approximation A/D and weighted resister type D/A converter. **(8+8)**

(OR)

b) Design a 3-bit synchronous up-counter.

14. a) Explain the architecture of 8085 with diagram.

(OR)

b) Using 8085 assembly language, multiply and divide two 8-bit numbers.

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

(OR)

b) Design a microprocessor system to interface a 8 LED's as output device and a 8-DIP switch as input device.
