

Reg. No. :

--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Question Paper Code : 31252

B.E./B.Tech. DEGREE EXAMINATION, NOVEMBER/DECEMBER 2010.

Fourth Semester

Mechanical Engineering

EC 1264 — ELECTRONICS AND MICROPROCESSORS

(Common to Automobile Engineering and Production Engineering)

(Regulation 2004)

(Common to B.E. (Part-Time) Mechanical Engineering – Third Semester
– Regulation 2005)

Time : Three hours

Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. Define Voltage Regulation.
2. Define Zener effect.
3. Define Biasing.
4. What are feed back amplifiers?
5. Explain an X-OR gate.
6. What are Registers?
7. What are the different addressing modes of 8085?
8. Classify the Instruction set of 8085.
9. Define Interfacing.
10. Write any two applications of Microprocessors.

PART B — (5 × 16 = 80 marks)

11. (a) (i) Explain in detail about the working of Half-wave and Full wave rectifiers in detail and discuss the merits and demerits also. (10)
(ii) Explain the energy band theory. (6)

Or

- (b) (i) Briefly explain the characteristics and working of zener diode as a Voltage Regulator. (8)
(ii) Describe the characteristics of PN junction diode. (8)
12. (a) Explain the working of common base, common emitter and common collector in detail. (16)

Or

- (b) Explain the characteristics and working of
(i) Diac
(ii) Triac
(iii) SCR. (16)
13. (a) (i) Design an full adder circuit and full subtractor circuit. (8)
(ii) Explain the working of JK and RS flip flops. (8)

Or

- (b) Explain the working of an A/D convertor and discuss the various types in detail. (16)
14. (a) Neatly draw the Block diagram of the Micro-Processor 8085 and discuss each module in detail. (16)

Or

- (b) Write a program in Assembly language of 8085 to sort 20 elements in Ascending order. (16)
15. (a) Explain the working of microprocessor based temperature controller. (16)

Or

- (b) Explain how microprocessor is used as a traffic light controller. (16)