

Reg. No. :

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**Question Paper Code : 20630**

B.E./B.Tech. DEGREE EXAMINATION, NOVEMBER/DECEMBER 2018.

Second Semester

Mechanical Engineering

GE 6252 — BASIC ELECTRICAL AND ELECTRONICS ENGINEERING

(Common to : All Branches)

(Regulations 2013)

(Also Common to : PTGE 6252 – Basic Electrical and Electronics Engineering for B.E. (Part-Time) First Semester – Mechanical Engineering – (Regulations – 2014))

Time : Three hours

Maximum : 100 marks

Answer ALL questions.

PART A.— (10 × 2 = 20 marks)

1. What do you mean by RMS value?
2. Name the meters which are used for measuring electrical Power and energy.
3. State the voltage equation of a DC motor.
4. What is meant by transformer?
5. Define breakdown voltage in a Zener diode.
6. What are the different configuration of BJT?
7. Mention the different types of flip- flops.
8. What is half adder?
9. What are the types of modulation?
10. State any two application of Micro Wave communication.

PART B — (5 × 16 = 80 marks)

11. (a) (i) State and explain Kirchoff's laws. (8)  
(ii) What is power factor? What are the three types of power in AC circuits? (8)

Or

- (b) Describe the classifications of Moving iron Instrument. State the advantages. (16)
12. (a) Discuss in detail about the constructional details and working principle of DC generators. (16)

Or

- (b) Discuss the types of single phase Induction motor. How to make the single phase Induction motor self-starting? (16)
13. (a) Discuss in detail about bridge rectifier with wave forms. (16)

Or

- (b) Draw and explain the common emitter configuration of a npn transistor with neat sketch. (16)
14. (a) What is a counter? Explain briefly about synchronous counter and its uses. (16)

Or

- (b) Describe operation of the half adder and full adder circuits. (16)
15. (a) How Does an Optical Fiber Transmit Light? State the advantages of optical fiber. (8 + 8)

Or

- (b) Write brief note on : (8 + 8)  
(i) Microwave  
(ii) Optical fibre.