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Question Paper Code : 42640

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

Second Semester

Civil Engineering

GE 2151 – BASIC ELECTRICAL AND ELECTRONICS ENGINEERING

(Common to all Branches)

(Regulations 2008)

Time : Three Hours

Maximum : 100 Marks

Answer ALL questions.

PART – A

(10×2=20 Marks)

1. State OHMS law.
2. What are the two types of Moving Iron instruments ?
3. State the voltage equation of a DC motor.
4. What is voltage transformation ratio of a transformer ?
5. Define breakdown voltage in a Zener-diode.
6. What are the different configuration of BJT ?
7. What are the different types of flip-flops ?
8. What is a register ?
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) The effective resistance of two resistors connected in series is 100Ω . When connected in parallel the effective value is 24Ω ? Determine the values of the two resistors. **(8)**
- ii) What is power factor ? What are the three types of power in AC circuits and derive the expression for three phase power in a balanced circuits ? **(8)**

(OR)

- b) What are the classification of Moving iron instrument ? Describe its principle of operation and state the advantages.



12. a) Discuss in detail about the constructional details of DC Machine.

(OR)

b) Discuss the types of single phase induction motor. How to make the single phase Induction motor self starting ? Explain any one method in detail.

13. a) Draw the circuit diagram of bridge rectifier and explain the output characteristics.

(OR)

b) Describe the common Emitter Configuration of NPN transistor.

14. a) What is a counter ? Explain briefly about synchronous counter and uses.

(OR)

b) Describe the half adder and full adder with the truth table and logic circuits.

15. a) Explain the Optical fiber communication system with block diagram and state the advantages.

(OR)

b) Explain the function FAX system in detail with the help of neat block diagram.