

B.Tech. 2nd Semester (Common for all Branches)

G- Scheme Examination, May-2019

BASIC OF ELECTRICAL ENGINEERING

Paper-ESC-EE-101-G

Time allowed : 3 hours]

[Maximum marks : 75

Note : *Question No. 1 is compulsory. Attempt any one question from each section. All questions carry equal marks.*

1. Explain the following :
 - (a) Significance of Phasor Diagram. 2.5
 - (b) BH Curve and its Characteristics. 2.5
 - (c) Torque-Speed characteristics of DC Motor. 2.5
 - (d) Power factor and its improvement. 2.5
 - (e) Voltage and Current sources. 2.5
 - (f) R.M.S. value. 2.5

Section-A

2. (a) What do you mean by Kirchoff's Law ? What are the different types ? Explain each with suitable example. 8
- (b) Explain the analysis of simple circuit with dc excitation in detail. 7

3. Explain the following with taking suitable example :
 - (a) Thevenin Theorem 8
 - (b) Norton Theorem 7

Section-B

4. (a) What do you mean by Transformer ? What are the different types of transformers ? Explain the working of each in detail. 7
- (b) What do you mean by regulation ? How it is useful in transformer testing and calculating its efficiency ? Explain. 8
5. Discuss about the following :
 - (a) Power measurement by Two Wattmeter Method 5
 - (b) Auto Transformer 5
 - (c) Voltage and Current relations in Star Connection https://www.haryanapapers.com 5

Section-C

6. How the generation of rotating magnetic field works ? Explain the construction and working of three-phase induction motor in detail with suitable diagrams. Also describe the different applications of three-phase induction motor. 15

7. (a) Describe the relationship between torque and speed in DC Motor. 8
(b) Explain the construction and working of synchronous generators in detail. 7

Section-D

8. Differentiate the following :
(a) Watt meter and Energy meter 8
(b) Moving iron Type and Moving Coil Types 7
9. Explain the following detail :
(a) Induction type Voltmeter 5
(b) SFU and MCB 5
(c) ELCB and MCCB 5

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