C14-M-**303**

4251

BOARD DIPLOMA EXAMINATION, (C-14)

MARCH /APRIL-2019

DME - THIRD SEMESTER EXAMINATION

BASIC ELECTRICAL & ELECTRONICS ENGINEERING

Time: 3 hours Max. Marks: 80

PART-A **10x3=30M**

Instructions: 1) Answer **all** questions.
2) Each question carries **three** marks.
3) Answers should be brief and straight to the point and shall not exceed five simple Sentences.

1) Define self inductance.

2) State faraday's laws of electromagnetic induction.

3) Define a) magnetic field strength b) permeability.

4) Draw the power flow diagram of a D.C genetor.

5) Define RMS Value of a sinusoidal AC wave.

6) List the main constructional parts of an alternator.

7) Define a) instantaneous value and

b) time period of an alternating quantity.

8) Draw the symbol of PNP and NPN transistors.

9) Draw the connection diagram of 1-ϕ energy meter with load.

10) State the purpose of earthing of electrical equipment and machinery.

PART-B 5x10=50M

Instructions: 1) Answer any **five** questions.
2) Each question carries **ten** marks.
3) Answers should be comprehensive and the criterion for valuation is the content but not the length of the answer.

11) a) State Fleming's right hand rule 4+6
b) Derive the expression for energy stored in a magnetic field.

12) a) State and explain Kirchhoff's laws. 5+5
b) When a resistor of 5Ω connected across a supply of 40V, calculate the current following through the circuit and power dissipated in the circuit.

13) a) Explain about back e.m.f in a DC motor. 5+5
b) Draw the connection diagram of welding generator.

14) a) Explain the necessity of starters in a D.C machine. 5+5
b) Explain the working principle of a transformer.

15) Explain DOL starter of a 3 ϕ Induction motor with a neat sketch.

16) a) Explain the working of principle of 3- ϕ Induction motor. 7+3
b) What are the different types of 1-ϕ Induction Motors.

17) Explain the operation of zener diode with the help of a neat sketch.

18) Explain the construction and working principle of moving Iron voltmeter.

* * *