



C16-M-402

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**BOARD DIPLOMA EXAMINATION, (C-16)
OCTOBER/NOVEMBER-2018
DME-FOURTH SEMESTER EXAMINATION**

BASIC ELECTRICAL AND ELECTRONICS ENGINEERING

Time : 3 Hours]

[Total Marks: 80

PART-A

3X10=30

Instructions :

1. Answer **All** questions.
2. Each question carries **Three** marks.
3. Answer should be brief and straight to the point and shall not exceed five simple sentences.

1. State the laws of Resistance.
2. Define Reluctance and mention its units.
3. Define capacitance and mention its units.
- * 4. Classify D.C Generators based on excitation.
5. What is back EMF in DC motors.
6. Define Instantaneous value and Average value of an a.c. wave.
7. Compare Star and Delta connections.
8. State any three applications of 3 phase induction motors.
9. Write the relation between Line and Phase value of current and voltage in a delta connected connection.
10. List the remedial procedures to be adopted in case of electric shocks.

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PART-B

10X5=50

- Instructions* : *
1. Answer any **Five** questions.
 2. Each question carries **ten** marks.
 3. Answer should be comprehensive and the criterion for valuation is the content but not the length of the answer
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11. (a) Define Work, Power and Energy from electrical aspects and mention their units.
(b) Derive the formula for effective resistance when three resistors are connected in parallel.
 12. State and explain Faraday's laws of Electro Magnetic Induction.
 13. (a) Derive the E.M.F equation of a DC Generator.
(b) Explain the working of a welding generator with neat sketch.
 14. Describe with sketch the connection diagram of a DC 3 point starter.
 15. (a) Write the advantages of 3 phase system over single phase system.
(b) Three coils each having a resistance of 20 ohms and inductance of 15 ohms are connected in star to a 400V 3-phase supply. Calculate (a) The line current and (b) Phase voltage
 16. Explain the construction and working principle of an alternator.
 17. Explain the working principle of Single phase induction motors.
 18. Explain the construction and working principle of a 1-phase induction type energy meter.

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