

* **C16-EE-406**

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BOARD DIPLOMA EXAMINATION, (C-16)

MAY/JUNE—2023

DEEE - FOURTH SEMESTER EXAMINATION

ELECTRICAL ENGINEERING DRAWING

Time : 3 Hours]

[Total Marks : 60

PART—A

5×4=20

- Instructions :** (1) Answer **all** questions.
(2) Each question carries **five** marks.

1. Draw a neat sketch of *High Rupturing Capacity (HRC) fuse and label its parts.
2. Draw a neat sketch of three-point starter and indicate its parts.
3. Draw a neat sketch of a minimum oil circuit breaker and label its parts.
4. Draw a neat sketch of bow stay arrangement for LT pole with strain insulator.

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PART—B

20×2=40

- Instructions :** (1) Answer *any two* questions.
(2) Each question carries **twenty** marks.

5. (a) Develop a simple lap winding for DC machine having 6 poles, 36 armature slots and one conductor per slot. 10
(b) Draw a neat sketch of pipe earthing with standard dimensions. 8+2
6. Draw the sectional elevation and plan of a single-phase 230/110 V, 5 KVA transformer with the following data :

Cross section of the core	single stepped core
Diameter of the circle	75 mm
Distance between the core centers	150 mm
Height of the yoke	80 mm
Outside diameter of LT Coil	90 mm
Inside diameter of LT Coil	80 mm
Height of LT winding	230 mm
Number of turn per limb	50
Outside diameter of HT Coil	135 mm
Inside diameter of HT Coil	110 mm
Height of HT winding	230 mm
Number of turn per limb	100
Overall height of yoke and core	400 mm

Assume any other missing data and draw to a suitable scale.

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7. Draw the half-sectional elevation and end view of a three phase 440 volts, 5 HP squirrel-cage induction motor with the following data :

Outer diameter of stator stampings	230 mm
Inner diameter of stator stampings	164 mm
Length of stator core	120 mm
Thickness of stator frame	30 mm
Type of stator slot	open
Number of stator slots	36
Size of stator slots	15 mm × 8 mm
Width of air gap	2 mm
Outer diameter of rotor stampings	160 mm
Inner diameter of rotor stampings	35 mm
Type of rotor slot	open
Number of rotor slots	36
Size of rotor slots	12 mm × 6 mm
Shaft diameter at centre	35 mm
Shaft diameter at bearings	30 mm

Assume any other missing data suitably.

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