



C16-EE-406

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BOARD DIPLOMA EXAMINATION, (C-16)

MARCH/APRIL—2018

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 and all dimensions are in mm.

1. Draw a neat sketch of high rupturing capacity (HRC) fuse and label its parts. 4+1
2. Draw a neat sketch of 4-point starter for DC shunt motor and label the parts. 4+1
3. Draw a sketch of 132 kV steel tower for single circuit and mark the dimensions. 4+1
4. Draw a neat sketch of H-type cable and label the parts. 4+1

PART—B

20×2=40

Instructions : (1) Answer *any two* questions.

(2) Each question carries **twenty** marks and all dimensions are in mm.

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

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6. Draw the front elevation and plan of single phase 230/110 V, 5 kVA transformer with the following data : 10+10

Core :

Cross-section of the core	Single step core dimensions
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Diameter of the circle	75 mm
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Distance between the core centres	150 mm
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Yoke :

Height of the yoke	80 mm
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LT winding :

Outside diameter of LT coil	90 mm
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Inside diameter of LT coil	80 mm
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Height of LT winding	230 mm
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No. of turns per limb	50 mm
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HT winding :

Outside diameter of HT coil	135 mm
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Inside diameter of HT coil	110 mm
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Height of HT winding	230 mm
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No. of turns per limb	100 mm
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Overall height of yoke and core	400 mm
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Assume all other missing data.

7. (a) Draw a neat sketch of a star/delta starter of a three-phase induction motor. 8

- (b) Draw the half-sectional end view of a 5 HP squirrel-cage induction motor with the following dimensions : 12

(i) Outside diameter of stator stampings : 240 mm

(ii) Inside diameter of stator stampings : 160 mm

(iii) No. of stator slots : 36

(iv) Type of stator slot : Open

(v) Size of stator slot : 18 mm × 12 mm

- (vi) Thickness of stator frame : 25 mm
(vii) Width of air gap : 2 mm
(viii) Outside diameter of rotor stampings : 156 mm
(ix) Inside diameter of rotor stampings : 35 mm
(x) No. of rotor slots : 30
(xi) Type of rotor slot : Open
(xii) Size of rotor slot : 10 mm × 5 mm
(xiii) Inner dia. of lifting eye bolt : 30 mm
(xiv) Outer dia. of lifting eye bolt : 40 mm
(xv) Shaft diameter at center : 35 mm

Assume missing dimensions and draw to a suitable scale.

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