C20-EE–407

7449

BOARD DIPLOMA EXAMINATION, (C-20)

NOVEMBER/DECEMBER—2022

DEEE – FOURTH SEMESTER EXAMINATION

ELECTRICAL ENGINEERING DRAWING-II

Time : 3 hours] [*Total Marks* : 60

PART—A

5×4=20

Instructions : (1) Answer **all** questions.

(2) Each question carries **five** marks.

1. Draw neatly the sectional view of SL-type cable and label its parts. 4+1=5

2. Draw the low-head hydropower plant and name its parts. 4+1=5

3. Draw the neat sketch of valve type lightning arrestor and label its parts. 4+1=5

4. Draw the connection diagram of a star delta starter for starting a 3 ph I.M. 5

PART—B

20×2=40

Instructions : (1) Answer **all** questions.

(2) Each question carries **twenty** marks.

(3) All dimensions are in mm.

5. Draw the sectional elevation and plan of 1-phase 230/110 V, 50 KVA transformer, single stepped core type transformer with following dimensions :

Circumference circle dia	:	75 mm
Distance between cores centers	:	150 mm
L.T. windings		
Outer dia	:	90 mm
Inner dia	:	80 mm
H.T. winding		
Outer dia	:	135 mm
Inner dia	:	110 mm
Height of Bakelite ring	:	20 mm
Yoke height	:	80 mm
L.T. winding height	:	230 mm
H.T. winding height	:	230 mm
Total transformer height	:	400 mm

(Assume all other missing data and draw to a suitable scale)

(OR)

(a) Draw the line diagram of a thermal power station and label its parts.

(b) Draw a 220/132 KV substation and label its parts.

6. Draw the half sectional end view of a 5 HP, 400 V, 50 Hz, 3-phase, 1440 rmp squirrel cage induction motor.

The main dimensions are given below :

Outside diameter of the stator stamping	:	240 mm
Inside diameter of the stator stamping	:	150 mm
Thickness of the stator frame	:	30 mm
Length of stator	:	90 mm
Stator slots—Type taper Number	:	36
Size	:	24 mm width of teeth 6 mm parallel
Air gap	:	0·5 mm
Width of footrest	:	70 mm
Distance between footrest	:	174 mm
Size of bolt holes	:	16 mm dia
Outer dia of lifting eye	:	46 mm
Inner dia of lifting eye	:	30 mm
Outside diameter of the rotor stampings	:	212 mm
Inside diameter of the rotor stamping	:	36 mm
Rotor slots-Type rectangular		
Number	:	30
Size	:	10·5 mm × 5·75 mm
Shaft diameter at centre	:	36 mm

Assume all other missing data and draw to a suitable scale

(OR)

Develop a lap winding for the stator 3ph AC induction motor having 24 slots with one conductor per slot and 4 poles.

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