C16-EE-**406**

6445

BOARD DIPLOMA EXAMINATION, (C-16)

MARCH / APRIL — 2021

DEEE — FOURTH SEMESTER EXAMINATION

ELECTRICAL ENGINEERING DRAWING

Time : Three Hours] [*Maximum Marks* : 60

PART-A 5×4=20

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

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

1. Draw the graphical electrical symbols of following :

(*a*) Fluorescent lamp

(*b*) Bell

(*c*) Ceiling fan

(*d*) Flood light

(*e*) Fan regulator

2. Draw the end view of a DC Generator with four main poles (not to scale) fixed to the yoke.

3. Draw a neat sketch of a minimum oil circuit breaker and label the parts.

4. Draw a neat sketch of bow stay arrangements for LT pole with strain insulator.

PART-B

20×2=40

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

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

5. (*a*) Draw developed diagram of single layer lap winding for a DC machine having 36 armature conductors and 6 poles. Also mark the brush position. 10

(*b*) Draw a neat sketch pipe earthing with pit dimensions and label the parts. 10

6. Draw the sectional elevation and plan of a single phase 220/660 V, 10 kVA transformer with the following data : 10+10

i.	Cross-section of the core	3 stepped core
ii.	Diameter of the circle	65 mm
iii.	Distance between the core centres	185 mm
iv.	Height of yoke	60 mm
v.	Internal diameter LT winding	70 mm
vi.	Outer diameter LT winding	120 mm
vii.	Height of the LT winding	200 mm
viii.	Outer diameter of HT winding	170 mm
ix.	Inner diameter of HT winding	125 mm
x.	Number of HT coils per limb	4
xi.	Overall height of yoke and core	360 mm

Use five Bakelite rings each of 4 mm thickness at top and bottom. Assume other dimensions and draw to suitable scale.

7. (*a*) Draw the half-sectional end view of a 3-phase, 440 V squirrel cage induction motor with the following dimensions : 12

i.	Outer diameter of stator stamping	230 mm

ii.	Inner diameter of the stator stamping	164 mm
iii.	Thickness of stator frame	25 mm
iv.	Type of slots	open
v.	Size of stator slots	15×8 mm
vi.	Width of air gap	2 mm
vii.	Outer diameter of rotor stamping	160 mm
viii.	Inner diameter of rotor stamping	35 mm
ix.	Shaft diameter at centre	35 mm
x.	Distance between belt hole to bolt hole	185 mm
xi.	Total distance at footrest	220 mm

Assume any missing dimensions and label the parts.

(*b*) Draw a neat sketch of Star/delta starter of a 3-phase Induction motor and label the parts. 8

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