7449

BOARD DIPLOMA EXAMINATION, (C-20)

MAY—2023

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.

(3) The drawings should be legible.

1. Draw the air blast circuit breaker and label its parts.

2. Draw the cross-sectional view of the four core cable and label its parts.

3. Draw the single-line diagram of the moderator type nuclear power plant and label its parts.

4. Draw the wiring diagram of the autotransformer starter and label its parts.

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

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

(3) The drawings should be legible.

5. *(a)* Draw the sketch of the 11 kV/400 V plinth mounted substation and label its parts.

(OR)

(b) Draw the sectional plan and elevation of the three-phase transformer having the three-stepped core with the following data :

Distance between the adjacent core centers	=	44 cm
Diameter of the core circle	=	24 cm
Inner diameter of the LT winding	=	26 cm
Outer diameter of the LT winding	=	32 cm
Inner diameter of the HT winding	=	34 cm
Outer diameter of the HT winding	=	42 cm
Total height of the core and yoke	=	100 cm
Height of each of the top and bottom parts of the yoke	=	24 cm
Thickness of each of the top and bottom bakelite rings	=	3 cm
Height of the LT winding	=	46 cm
Height of the HT winding	=	46 cm

Assume any other data that requires to complete this drawing legibly.

6. *(a)* Draw winding diagram using the winding table of the single-phase AC machine having full pitched wave winding with 4 poles, 24 slots and one conductor per slot.

(b) Draw the half-sectional end view and elevation of three-phase 400 V, 50 HZ, 5 HP squirrel cage induction motor with the following data :

Diameter of the shaft at bearing	=	32 mm
Diameter of the shaft at center	=	36 mm
Inside diameter of the rotor core stamping	=	36 mm
Outside diameter of the rotor core stamping	=	212 mm
Inside diameter of the stator core stamping	=	216 mm
Outside diameter of the stator core stamping	=	288 mm
Inside diameter of the stator frame	=	288 mm
Outside diameter of the stator frame	=	352 mm
Number of 16 mm × 12 mm open type stator slots	=	36
Number of 12 mm × 8 mm closed type rotor slots	=	32
Number of equally spaced ducts in the stator	=	8
Number of equally spaced ducts in the rotor	=	4
Length of the rotor core stamping	=	104 mm
Length of the stator core stamping	=	104 mm
Length of the stator frame	=	144 mm
Width of each of the end covers	=	56 mm
Length of the shaft	=	400 mm
Spacing between the 60 mm × 24 mm foot rests	=	164 mm
Length of each of the 60 mm × 24 mm foot rests	=	228 mm

Assume any other missing data that requires to complete this drawing legibly.

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