C20-EE–407

# 7449

## BOARD DIPLOMA EXAMINATION, (C-20)

## JUNE/JULY—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 HSL-type cable and label the parts.

**2.** Draw the high head hydro power plant and name the parts.

**3.** Draw the neat sketch of valve type lightning arrestor and label the parts.

**4.** Draw the single line diagram of 220/132 KV SS and label the parts.

## PART—B

8×5=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 nuclear power station and label the parts.

*(b)* Draw a 33/11 KV substation and label the parts.

**6.** Draw the half sectional end view of a 7 HP, 400 V, 50 Hz, 3-phase, 1440 rpm.

The main dimensions are given below :

Outside diameter of the stator stamping : 288 mm

Inside diameter of the stator stamping : 216 mm

Thickness of the stator frame : 31 mm

Stator slots - Type Open

Number : 36

Size : 18 mm × 12 mm

Air gap : 2 mm

Outside diameter of the rotor stampings : 212 mm

Inside diameter of the rotor stamping : 36 mm

Rotor slots - Type Open

Number : 36

Size : 18 × 12 mm

Shaft diameter at centre : 36 mm

at bearing : 32 mm

Ducts stator frame 8 rotor 4

Spacing between ducts equally spaced

Assume all other missing data and draw to a suitable scale

**( OR )**

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

★ ★ ★