

Electrical Drawing

4th sem / EE, Full mark - 100

NO1 Draw the symbol of the following $[2 \times 10] = 20$.

- | | |
|--------------------------|-------------------------|
| (a) Single way switch. | (f) Exhaust fan |
| (b) Isolator | (g) Power factor meter. |
| (c) Energy meter. | (h) Siren. |
| (d) Buzzer. | (i) series generator. |
| (e) current Transformer. | (j) Thermo couple. |

NO2 Answer five questions $[5 \times 10] = 50$

- Draw a neat sketch of the plate earthing system as per BIS.
- Draw the single line diagram of a ~~33/11~~ 33 kV/11 kV substation.
- Draw with neat sketch the circuit diagram of a DOL starter.
- Draw with neat sketch the circuit diagram of a Auto transformer starter.
- According to REC specification draw the double pole structure of a HT distribution line.

Answer any one questions $[1 \times 30] = 30$

NO3 A double layer lap winding is to be made for a 3- ϕ , 4 pole machine having 24 slots in its armature. The coil span is reduced by one slot. Draw the developed winding diagram. $[30]$

NOY Draw the following view of a 3- ϕ , 250 kVA, 11/0.4 kV transformer. [30]

(i) Front elevation full in section

(ii) Top view.

The details dimensions are as follows -

CORE : cross section of the core = 3 stepped,

Dia of the circumcircle = 24 cm

Distance betⁿ the adjacent centers of core = 42.5 cm.

Yoke height = 25 cm

LT winding

outside diameter 28.3 cm, inside dia 25 cm, No. of turns per phase is 572, height is 43.5 cm.

HT winding

outside diameter 41.5 cm, inside dia 34.3 cm, No. of turns per phase is 572, height 43.5 cm

Total height of Transformer = 100 cm.