C14-EE-**407**

4446

BOARD DIPLOMA EXAMINATION, (C-14)

MARCH / APRIL - 2019

DEEE - IV SEMESTER EXAMINATION

ELECTRICAL ENGINEERING DRAWING

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

PART - A **4×5=20**

Instructions : *(1) Answer **ALL** questions.*
*(2) Each question carries **FIVE** marks.*
(3) Drawing should be neat and clear with the necessary dimensions.
(4) All dimensions are in mm.

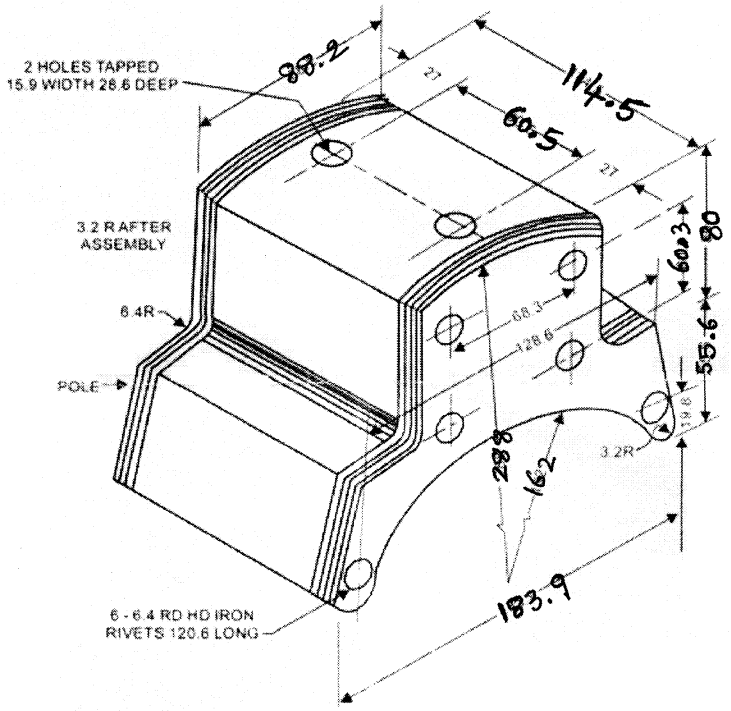
1 Draw the symbols of :

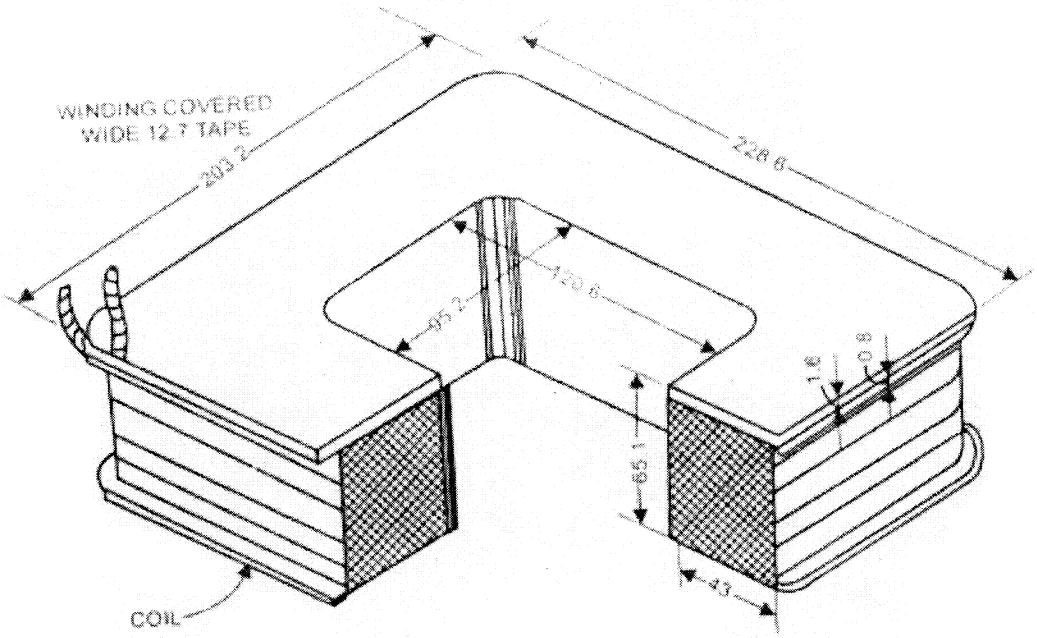
(a) Iron Clad Triple pole switch (b) Buzzer

(c) Joining of conductors (d) Cable termination

(e) $3-\phi$ wound rotor induction motor

2 Draw the front elevation for the given isometric view of a pole and coil assembly of a d. c. machine





3 Draw the wiring diagram of D. O. L. starter used for a $3-\phi$ Induction motor.

4 Sketch and label the parts of Air Break switch.

PART - B

2×20=40

Instructions : *(1) Answer any **TWO** questions.*
*(2) Each question carries **TWENTY** marks.*
(3) Drawing should be neat and clear with the necessary dimensions.
(4) All dimensions are in mm.

5 (a) Develop simple lap winding for 6 pole D. C. machine having 36 armature conductors.

(b) Draw the following views of a $3-\phi, 25\ kVA, 11\ kV/400V$ transformer.

(i) Front Elevation full in section.

(ii) Plan full in section.

The detailed dimensions of the parts are as follows :

Core	Cross section of the core :	3 step core
	Diameter of circum circle :	24 cm
	Distance between the adjacent centres of core :	42.5 cm
Yoke	Height of yoke :	25 cm
L T winding	Outside diameter of L. T. Coil :	28.3 cm
	Inside diameter of L. T. Coil :	25 cm
	Height of L T winding	43.5 cm
	Number of turns per phase	12
H T winding	Outside diameter of H. T. Coil :	41.5 cm
	Inside diameter of H. T. Coil :	34.3 cm
	Height of H. T. Coil :	43.5 cm
	Number of turns per phase :	572
	Total height of transformer :	100 cm

6 (a) Draw the sketch of PSCC pole for supporting $11\,kV, 3-\phi$ distribution line of double circuit disposition.

(b) Draw the following views of a 5 H P, 400/440 V, 1440 r. p. m. $3-\phi$ squirrel cage induction motor.

(i) Half sectional front elevation

(ii) Half sectional end view

The main dimensions have been given below :

(i)	Outside diameter of the stator stampings :	230 mm
(ii)	Inside diameter of the stator stampings :	164 mm
(iii)	Stator core length :	120 mm
(iv)	Thickness of the stator frame :	25 mm
(v)	Air gap :	2 mm

(vi) Outside diameter of rotor stampings : 160 mm

(vii) Inside diameter of rotor stampings : 35 mm

(viii) Shaft diameter

(a) At centre : 35 mm

(b) At bearing : 30 mm

(ix) Slots in stator

(a) type : Open

(b) number : 36

(c) size : 15 × 8 mm

The rotor has totally closed type slots and contains bare conductors which are short circuited at both ends.

7 (a) Draw the single line diagram of 33 kV/11 kV Substation.

(b) Draw the dimensioned sketch of pipe earthing.

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