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120934/030934

3rd Sem. / Electrical Engg.

Subject : Electrical Engineering Design And Drawing-I

Time : 3 Hrs. M.M. : 100

SECTION-A

Note: Very Short Answer type questions. Draw symbols of 15 parts. (15x2=30)

Q.1 a) Zero Adjuster.

b) Motor Starter.

c) Earth Point.

d) galvanometer.

e) Flood height

f) DC Voltmeter

g) MCB

h) Ceiling Rose 2 plate

i) Bell

j) Fan Regulator

k) Two way switch

l) AC voltage

m) Earthing plate

n) Analog Instrument

o) Battery

p) Phase indicator meter

q) Step down transformer

r) AC motor

SECTION-B

Note: Attempt all question.

Q.2 Explain the following accessories with diagrams used in domestic installation:- 20

a) Changeover switch

b) Distribution Box

c) Control Switch

d) Earth Leakage circuit breaker (ELCB)

e) MCB (miniature circuit breaker)

Or

Draw the wiring and single line diagram showing domestic electrical connection consisting of energy meter, main switch distribution board & five sub circuits

Q.3 Draw the schematic & wiring diagram to control three phase induction motor from two different locations. The motor can be start & stop from any location. 25

Or

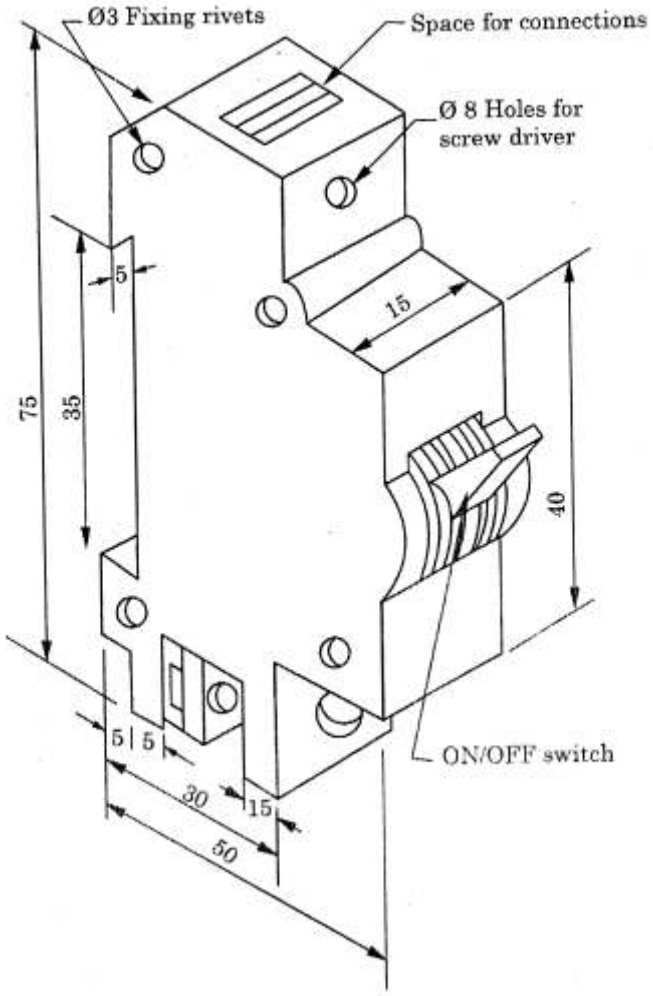
Draw the schematic and wiring diagram for forwarding/reversing the direction of rotation of three phase induction motor.

Q.4 The isometric view of MCB in shown. Draw the following orthographic view:- 25

i) Front View (10 marks)

ii) Side view (10 marks)

iii) Top view (5 marks)



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3rd Sem. / Electrical Engg. /PS / E&E

Subject : Electrical Engineering Design and Drawing I

Time : 3 Hrs. M.M. : 100

SECTION-A

Note: Very Short Answer type questions. Attempt any 15 parts. (15x2=30)

Q.1 a) Re-wire able fuse

b) Siren

c) Buzzer

d) Ceiling fan

e) Fan regulator

f) D.C. Motor

g) Zero Adjuster

h) Motor Starter

i) Voltmeter

j) Wattmeter

k) Earth Point

l) Flood light

m) 5 ampere, 3 pin socket outlet

n) Energy Meter

o) Main fuse board without switch "Power"

p) Magnetic Screening

q) Galvanometer

r) Manually operated fire alarm.

Note-: Attempt all Question.

Q.2 Draw the wiring diagram to control a 3 phase induction motor by using DOL starter

or

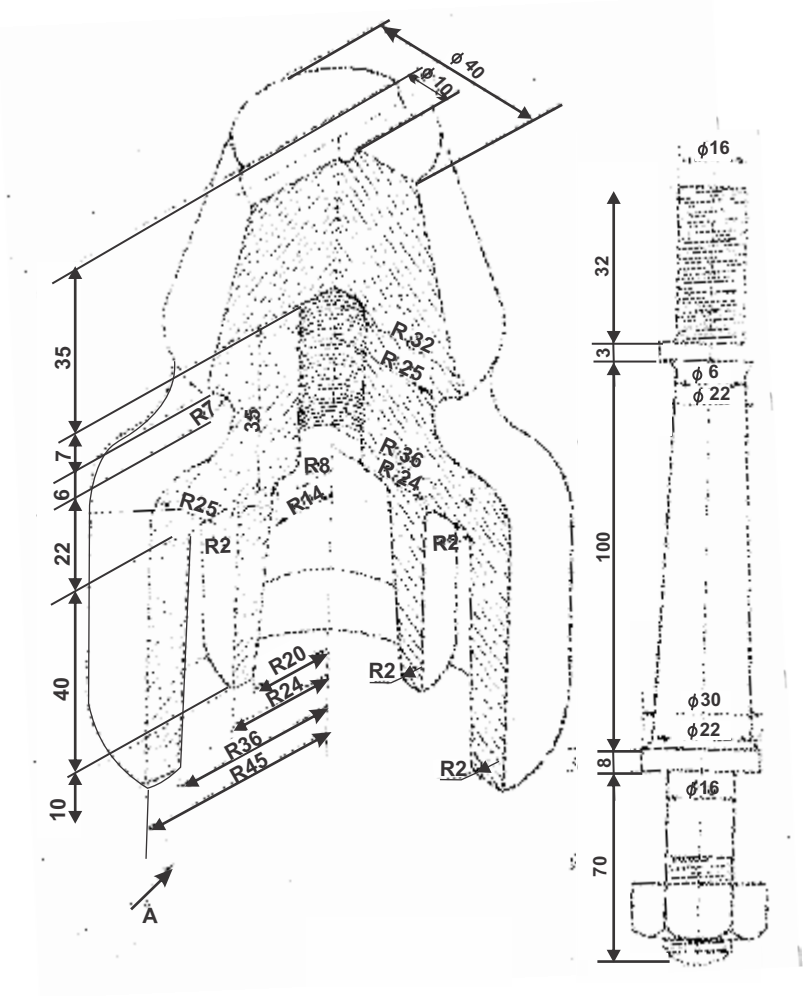
Draw the wiring diagram for sequence starting of 2 three phase induction motor byusing TDR. 20

Q.3 Draw wiring diagram and single line diagram showing connection of single phase energy meter; double pole main switch and distribution board for 5 sub circuit.

or

Design the main board for a large residential building which should be provided with two double pole iron clad main switch to control state board supply and generator supply respectively. A double pole double throw change over switch for changeover from electricity board supply to generator supply or vice-versa. In which to control 5 single pole MCB & one neutral link. 25

Q.4 Draw the orthographic projection of Pin Type insulator as show in Fig. 25



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3rd Sem. / Electrical Engg. /PS / E&E

Subject : Electrical Engineering Design and Drawing I

Time : 3 Hrs. M.M. : 100

SECTION-A

Note: Very Short Answer type questions. Attempt any 15 parts. (15x2=30)

Q.1 a) Re-wire able fuse

b) Siren

c) Buzzer

d) Ceiling fan

e) Fan regulator

f) D.C. Motor

g) Zero Adjuster

h) Motor Starter

i) Voltmeter

j) Wattmeter

k) Earth Point

l) Flood light

m) 5 ampere, 3 pin socket outlet

n) Energy Meter

o) Main fuse board without switch "Power"

p) Magnetic Screening

q) Galvanometer

r) Manually operated fire alarm.

Note-: Attempt all Question.

Q.2 Draw the wiring diagram to control a 3 phase induction motor by using DOL starter

or

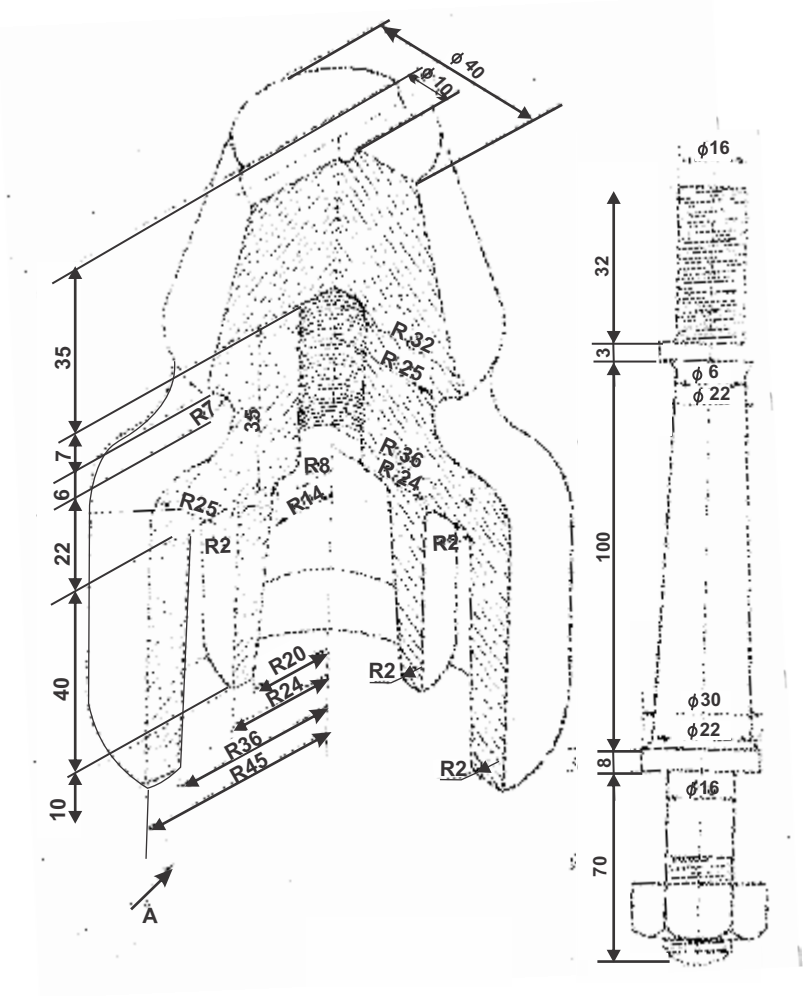
Draw the wiring diagram for sequence starting of 2 three phase induction motor byusing TDR. 20

Q.3 Draw wiring diagram and single line diagram showing connection of single phase energy meter; double pole main switch and distribution board for 5 sub circuit.

or

Design the main board for a large residential building which should be provided with two double pole iron clad main switch to control state board supply and generator supply respectively. A double pole double throw change over switch for changeover from electricity board supply to generator supply or vice-versa. In which to control 5 single pole MCB & one neutral link. 25

Q.4 Draw the orthographic projection of Pin Type insulator as show in Fig. 25



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120934/030934

3rd Sem. / Electrical

Subject : Electrical Engg. Design & Drawing - I

Time : 3 Hrs. M.M. : 100

Note: Draw any 15 symbols (15x2=30)

Q.1 a) PNP transistor.

b) Auto transformer.

c) Fan regulator.

d) Time delay relay.

e) Spot light.

f) Circuit breaker.

g) Two way switch.

h) Phase sequence indicator.

i) Galvanometer.

j) Earthing.

k) DOL starter.

l) DC motor.

m) Frequency meter.

n) Single phase auto transformer.

o) Voltmeter.

p) Heater.

q) Normally open push button.

r) Limits switch NO.

Q.2 Design the main control panel for a newly constructed building for control of lighting load The main panel should be provided with the following components of appropriate rating:

a) DPIC main switch fitted with kit kat fuses.

b) 6 single pole MCB for different sub circuit. 25

Or

Draw the panel/distribution board for domestic installation for 5kw single phase a.c supply. Assume other parameter.

Q.3 Draw the control and wiring diagram for sequential starting of two motor using TDR. 15

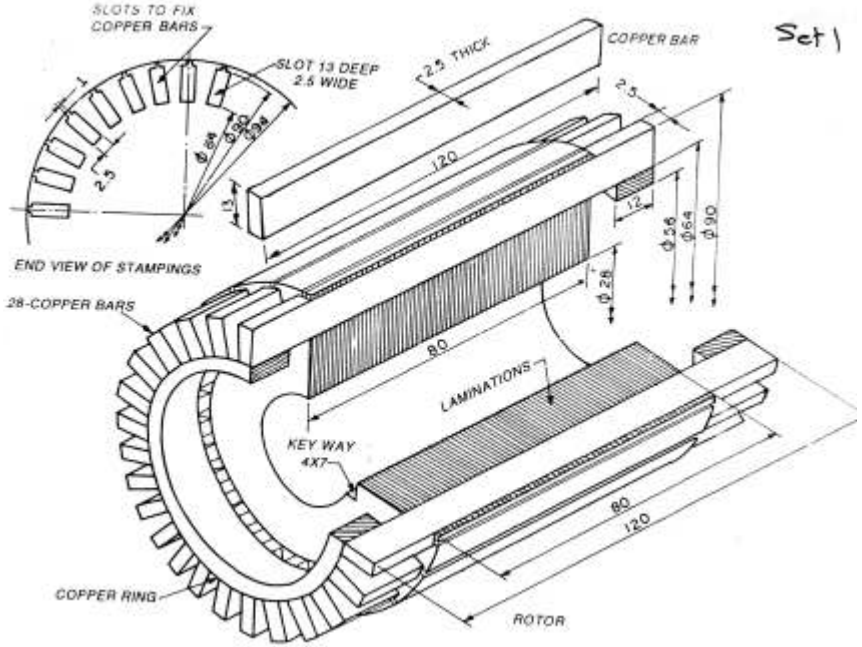
Or

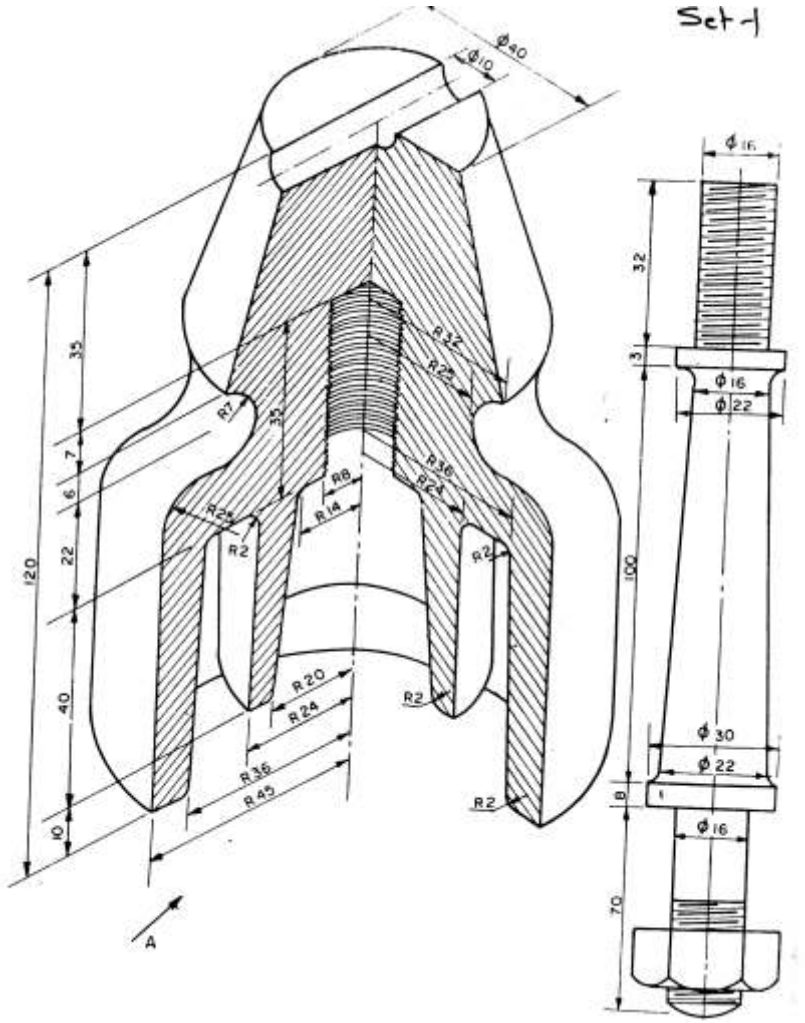
Draw the control and wiring diagram for Forward-reverse the direction of a 3F induction motor using time delay relay.

Q.4 Draw the orthographic projection of Pin type insulator 30

Or

Slip ring of an induction motor.


Set 1
SLOTS TO FIX COPPER BARS
SLOT 13 DEEP 2.5 WIDE
2.5 THICK
COPPER BAR
END VIEW OF STAMPINGS
28-COPPER BARS
LAMINATIONS
KEY WAY 4X7
COPPER RING
ROTOR
120
80
2.5
12
13
Φ28
Φ56
Φ64
Φ90


Set 1
Φ40
Φ10
Φ16
Φ22
Φ30
R32
R25
R2
R8
R14
R36
R24
R20
R45
120
100
70
32
35
22
40
10
A

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3rd Sem. / Electrical Engg.

Subject : ELECTRICAL ENGINEERING DESIGN AND DRAWING-1

Time : 3 Hrs. M.M. : 100

SECTION-A

Note: Very Short Answer type questions. Attempt All 15 parts. (15x2=30)

Q.1 Draw a symbols of 15 (CO-1, CO-2)

a) Earth Electrode.

b) Bell.

c) Transformer.

d) Distribution fuse board without switches (Power)

e) Diode.

f) Socket outlet with switch.

g) Energy meter.

h) Heater.

i) Three phase motor.

j) Voltmeter.

k) Fuse.

l) Switch (open).

m) MCB.

n) Light dependent switch.

o) Limit switch (NC).

SECTION-B

Note: Attempt all questions.

Q.2 Draw the schematic, wiring and single line diagram for one light, one fan and one 6 A socket to be controlled by individual switch.(20)

or

Draw the schematic, wiring and single line diagram for single stair case wiring system using two way switch (One lamp controlled by 2 switches). (CO-3,CO-4) (20)

Q.3 Draw the wiring diagram for house consisting Energy meter, main switch etc. The circuit should contain separate control panels for lighting and power control. Show at least four sub-circuit on each lighting and power circuit. (CO-5) (20)

Q.4 Draw the following views of bus bar post shown in figure 1. (CO-6) (30)

1) Front view in section looking in the direction of arrow 'A'.

2) Side view in section looking in the direction of arrow 'B'.

3) Top view

or

The isometric view of rotor of squirrel cage induction motor is shown in figure 2.

Draw the following

1) Half sectional view.

2) End view of rotor assembly.

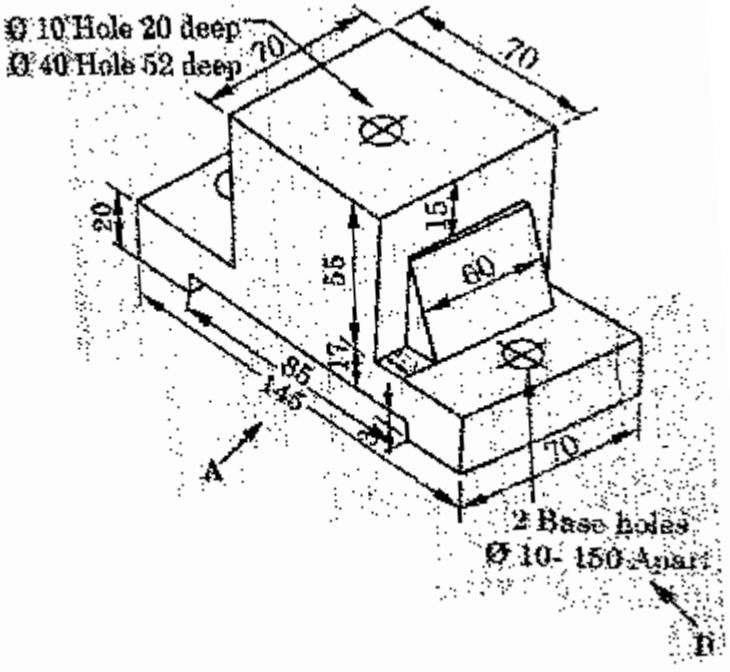

Figure no.1

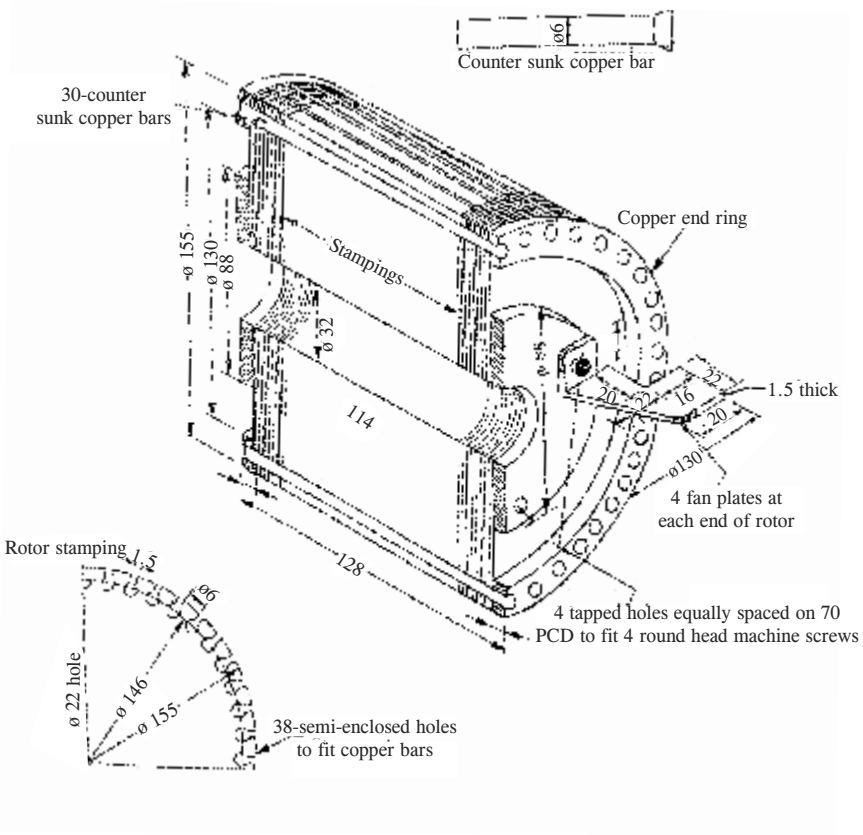

Figure no.2

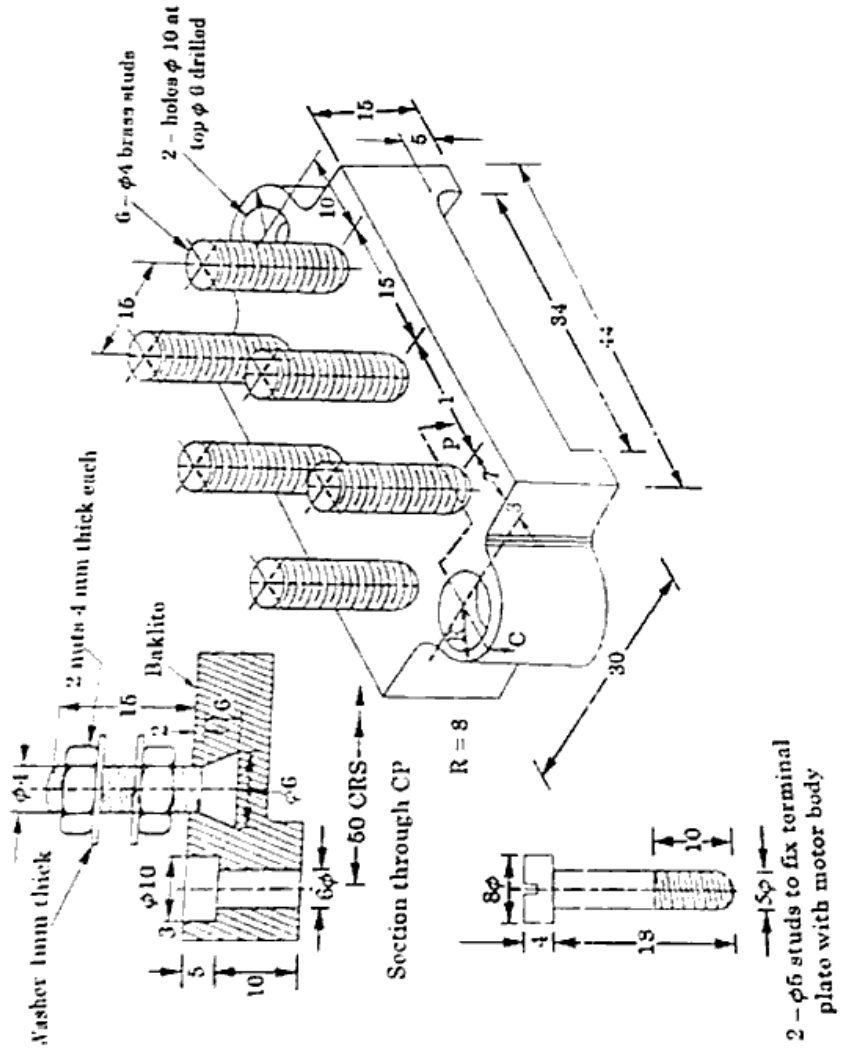

Figure 2

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3rd Sem. / Electrical Engg.

Subject : Electrical Engineering
Design and Drawing-1

Time : 3 Hrs. M.M. : 100

SECTION-A

Note: Very Short Answer type questions. Attempt any 10 15 parts. [10 X 3 = 30 ~~15x2=30~~]

Q.1 Draw symbols of ~~15~~ 10 parts. (CO-1,CO-2)

a) Switch (Closed)
b) Buzzer.
c) Tripple pole MCB
d) Two way switch
e) Variable resistance.
f) Limit switch(NO)
g) Galvanometer
h) Distribution board with switches (Light)
i) Neutral link
j) Battery.
k) Hooter.
l) DC motor
m) Autotransformer.
n) Capacitor
o) Time Delay Relay (TDR)

SECTION-B

Note: attempt all questions.

Q.2 Two lamps, one fan, one bell and one 5 A socket are to be installed in a house. Draw the schematic, wiring and single line diagram for the above installation. (CO-3) (20)

OR

Draw the schematic, wiring and single line diagram for two bells controlled by one push button. By pressing the push button during day time one bell should operate and during night time by pressing the same button the other bell should operate (Use one two way switch in circuit). This circuit is to be used in doctor nursing home.

Q.3 Draw the installation plan and wiring diagram showing locations of energy meter, main switch, star delta starter, 3 phase induction motor etc. for the installation of 3 phase 10 HP induction motor in room size 6mx5m. (CO-5)(20)

Q.4 Draw the half sectional isometric view of pin type insulation for 11 KV shown in Figure no.1. (CO-6) (30)

OR

The isometric view of terminal plate of induction motor is shown in figure 2. draw the following

1) Front view
2) Top view
3) Side view

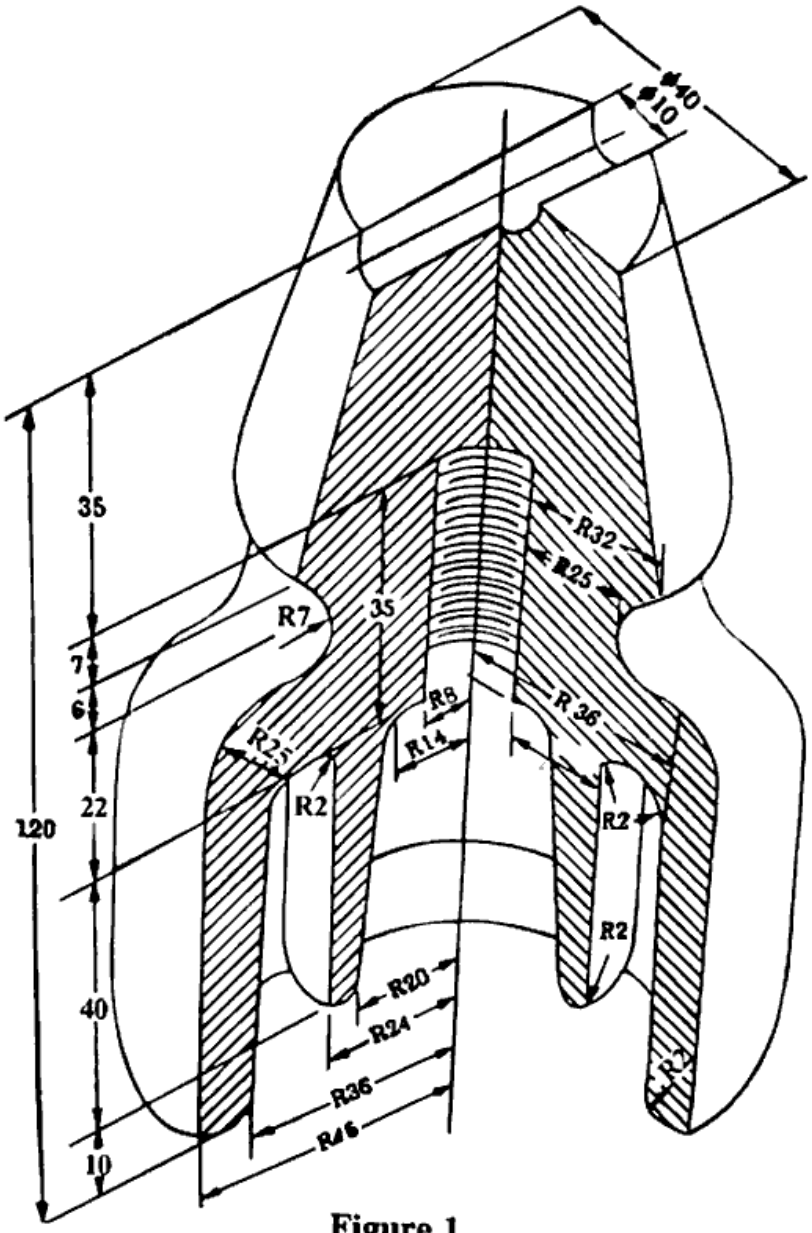

Figure 1

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Electrical Engineering

Subject : Electrical Engineering Design & Drawing-I

Time : 3 Hrs. M.M. : 100

SECTION-A

Note: Draw any ten symbols of the following. (10x2=20)

Q.1 a) Main fuse board power

b) D.P.I.C.

c) Fuse

d) Double pole MCB

e) Neutral Link

f) Siren

g) Loud Speaker

h) Buzzer

i) Indicator

j) Energy meter

k) Step up transformer

l) Single phase transformer

m) DC motor

n) DC shunt motor

o) Zener diode

Q.2 Draw the schematic and wiring diagram of the circuit in which one lamps and a fan and a socket is controlled by individual switch. (15)

Q.3 Draw the schematic and wiring diagram of a single stair case wiring circuit. (15)

Q.4 Draw the single line wiring diagram consisting of energy meter, main switch, DPMCB and four sub circuits. (20)

Q.5 Draw the (30)

(a) Front View

(b) Top View of the Pin type insulator shown in the figure below.