

S. B. Roll. No.....

ELECTRICAL ENGINEERING DESIGN AND DRAWING
3rd Exam/Elect/6952/Nov'24
(For 2018 Batch Onwards)

Duration: 3Hrs.

M.Marks:75

SECTION-A

Q1. Conventional symbols.

15x1=15

- a. Variable resistor
- b. Choke
- c. Control Board
- d. Exhaust fan
- e. Change over contact
- f. Three phase induction motor
- g. circuit breaker
- h. Neutral link
- i. Rewirable fuse
- j. Battery
- k. Aerial
- l. DC generator
- m. Siren
- n. Impedance
- o. Lightning Arrestor

SECTION-B

Q2. Attempt any three questions.

3x20=60

- i. Design and draw the wiring diagram of the main panel of a building. The main panel consists of energy meter, double pole main switch(DPIC), Generator supply(as alternate source of supply), DPIC main switch to control generator supply, double pole changeover switch, two pole MCB unit, earth leakage circuit breaker (ELCB) and nine sub circuits apart from bus bar and neutral link.
- ii. Draw the complete wiring diagram of a modern large building showing connections of main panel board consisting of double pole MCB, single pole MCB's, Single pole MCB's and ELCB. The building has 4 light and fan points, one 5 A socket and one 15 A socket. The building has also an alternate source of supply of generator. Show the connections of generator also with the supply through double pole double throw, changeover switch. Also shows the connections of ammeter and voltmeter.
- iii. A three phase induction motor is required to run in the forwarding direction, stops, runs in the reverse direction. Provide separate push buttons for both directions of rotation. One additional push button be provided to stop the motor irrespective of the direction of rotation. Also provide overload and short circuit protective devices. Design and Draw the schematic diagram of control circuit & complete wiring diagram. Use (1 NO+1 NC) push buttons for the manually operated motor.
- iv. The detail of assembly of insulator G.I. strap and insulator pin is shown in the **fig. A** separate detail of G.I. Strap and pole is given separately. Draw the following views.
 - a) Front view right half in section
 - b) Top view

