

S.B. Roll No.....

ELECTRICAL ENGINEERING DESIGN & DRAWING-I
3rd Exam/Elect/0527/May'17

Duration: 3hrs.

M. Marks =75

NOTE : Attempt total FOUR questions . Q1 & Q5 are compulsory.

Q1. Draw the graphical symbols of the following:

1.5x10=15

- a. Energy meter
- b. Exhaust fan
- c. PNP transistor
- d. Battery
- e. NC contact
- f. Fire alarm
- g. Ceiling fan
- h. Three pin power socket
- i. One way switch
- j. Bell

Q2. Draw a schematic diagram, wiring diagram & single line diagram to control 3 bells in series with 3 push buttons located at different places . All the 3 bells should ring simultaneously, when any of the 3 push button is pressed. Adopt joint box system **(20)**

Q3. Draw single line , schematic & complete wiring diagram for connecting two lamps, three fans ,one socket in a house through energy meter & main switch . **(20)**

Q4. A three phase induction motor is to be started & stopped direct-on line with the help of two push buttons . the motor starts when IN or START push button is pressed . The motor stops when OUT or OFF push button is pressed . Provide overload & short circuit protection to the motor & draw the control & complete wiring diagram. **(20)**

Q5. An isometric view & orthographic view of the same bus bar post are shown in Fig. 1. Draw the following views to a suitable scale : **(20)**

- (a) Front view right half in section
- (b) Side view left half in section
- (c) Top view

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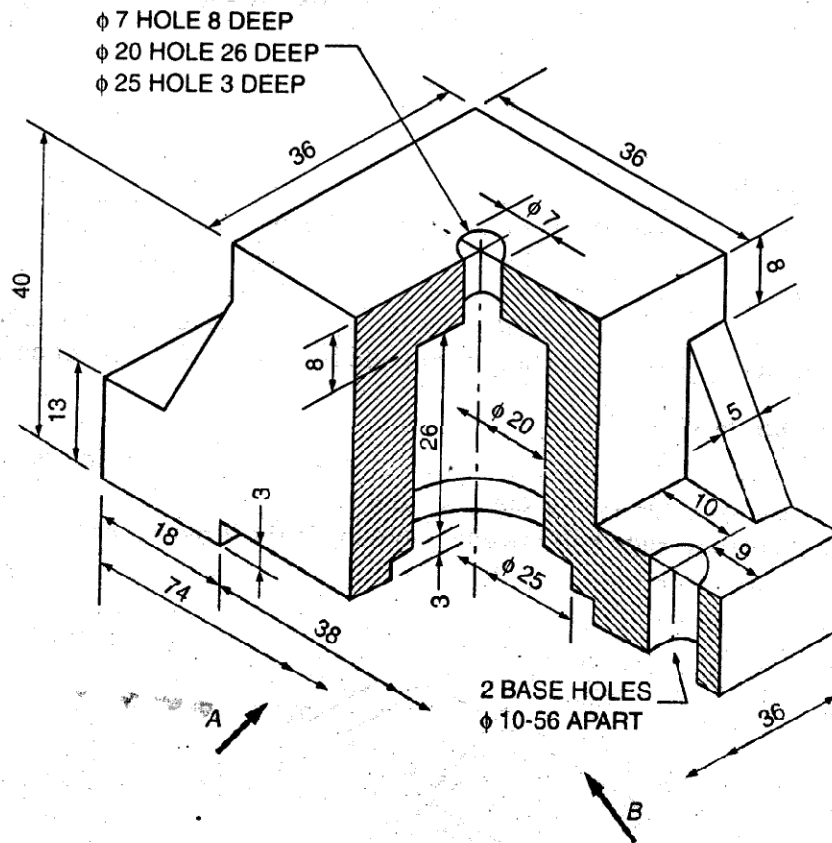


Fig. 1