

**CI-G-VII/S-I/B/17**

**TRADE TEST OF CRAFT INSTRUCTOR  
(SEMESTER SYSTEM)  
SEPTEMBER - 2017**

**TRADE GROUP: VII(ELECTRONIC MECHANIC, MECHANIC RADIO & TV, IT & ESM,  
COMPUTER HARDWARE & NETWORKING MAINTENANCE)**  
**SUBJECT: ENGINEERING DRAWING**

**MARKS: 100  
TIME: 4 HRS**

**Note: Attempt All the questions.**

**(6x5=30)**

1. **a) Draw electronic symbol for the following -**

- |                  |                     |          |
|------------------|---------------------|----------|
| i) Zener diode   | ii) 4x1 Multiplexer | iii) UJT |
| iv) OP-Amp - 741 | v) RTD              |          |

**b) Draw electrical symbol (IEC and IEEE standard) for the following -**

- |                         |                     |
|-------------------------|---------------------|
| i) AC and DC battery    | ii) Induction motor |
| iii) Solenoid contactor | iv) Voltage source  |
| v) Generator            |                     |

c) Draw the circuit connection (diagram) of full wave voltage multiplier.

d) Draw the free hand sketch of any two hand tools used in electrical and electronics lab.

e) Draw the connection of inverting integrator and differentiator using OP-AMP circuit.

f) Draw the circuit diagram of Wien bridge oscillator using transistor.

2. a) Draw the connection of full adder using two half adder and gates.

**(25)**

b) Draw the diagram of AC and DC generator.

**(10)**

**OR**

a) Draw the logic circuit of the following function using basic gates.

**(15)**

$$Y = AC(D+E) + DE + A + AD + (D + E) \bar{C}$$

b) Draw the constructional diagram for LVDT passive inductive transducer.

**(20)**

3. Draw (3D view) and label the controls & features of a typical top loading washing machine.

**(35)**

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