



2018 VI 08

1430

Seat No. :

--	--	--	--	--

Time : 2 Hours

**ELECTRONICS MATERIALS AND
WORKSHOP PRACTICE**

Subject Code

V	3	3	2
---	---	---	---

Total No. of Questions : 5

(Printed Pages : 3)

Maximum Marks : 50

- INSTRUCTIONS:**
- Answer **each** question on a **fresh** page.
 - Write the number of the question and sub-question **clearly**.
 - All** questions are **compulsory**.
 - Figures to the **right** indicate **full** marks.
 - Draw a **neat** labelled diagram **wherever** necessary.

1. A) Fill in the blanks : **[2]**
- The insulating material used to manufacture radio circuit capacitor, commutator segment, domestic appliances is _____.
 - A solution of a resinous material in oil, turpentine or alcohol is called _____.
- B) Answer the following : **[6]**
- State any six essential rules and methods required for repairing of an appliance.
 - Mention any one application of the following tools :
 - Bench vice
 - Combination insulated plier
 - Double end open jaw spanner
 - Cross peen hammer
 - Round file
 - Series test lamp.
- C) Answer the following : **[2]**
- State any four advantages of PCB.



2. A) Answer the following : [2]
i) Write any two properties of Nichrome.
ii) State two ways to minimise hysteresis loss.
- B) Answer the following : [6]
i) State any four properties and two applications of Germanium.
ii) Draw a neat labelled flow chart for manufacturing process of a PCB.
- C) Answer the following : [2]
State any four properties of Epoxy laminates.
3. A) Fill in the blanks : [2]
i) The high resistivity material used for making different types of rheostats, resistance wires, resistance boxes is _____.
ii) The magnetic material used to manufacture machine yokes, electrical magnetic brakes is _____.
- B) Answer the following : [3]
State any two applications of the following insulating materials :
a) Porcelain
b) Insulating tapes
c) PVC.
- C) Answer **any one** of the following in detail : [5]
i) With the help of a neat labeled diagram, explain the construction of type A mechanically biased dry reed relay.

OR
ii) With the help of a neat labeled diagram, explain the construction of general purpose relay.
4. A) Answer the following in brief : [2]
i) Write any two applications of thermocouple.
ii) Draw a neat labeled diagram of hysteresis loop.
- B) Answer the following : [3]
Write any two applications of the following conducting materials :
a) Aluminium b) Tungsten c) Selenium



C) Answer **any one** of the following in detail : [5]

i) With the help of a neat labeled diagram, explain zone refining method of semiconductor crystal growth.

OR

ii) With the help of a neat labeled diagram, explain Czochralski method of semiconductor crystal growth.

5. Answer the following : [10]

i) State any four properties of Alnico.

ii) Draw a neat labeled diagrams for the following :

a) Resistance measurement using voltmeter Ammeter method.

b) Open circuit fault by test lamp.

iii) Distinguish between conductor and insulator (Mention two points each).

iv) What is Lubricant ? Name any two types of Lubricants.

v) State any four sequential steps for dismantling of an appliances.
