

B.Sc. Semester-IV Examination, 2022-23**ELECTRONICS [Honours]**

Course ID : 41715 Course Code : SH/ELC/405/SEC-2(T)

**Course Title : Design and Fabrication of Printed
Circuit Boards**

Time : 2 Hours

Full Marks : 40

*The figures in the right-hand margin indicate marks.**Candidates are required to give their answers in
their own words as far as practicable.*

1. Answer any **five** of the following: $2 \times 5 = 10$
- What is an artwork in PCB? What is its importance?
 - What is Polymerization? Mention its types.
 - Differentiate between thermoplastic and thermoset resins.
 - Enlist the accessories used in screen printing.
 - What is meant by drilling?
 - What do you mean by inorganic and organic fluxes?
 - Why lead-tin alloy is the most popular solder?
 - Define the following terms: atomic weight, E.C.E, valency, ions.

[Turn over]

2. Answer any **four** of the following: $5 \times 4 = 20$
- What do you mean by screen printing inks? Give their types and desirable characteristics. $2+3=5$
 - Enlist the etching techniques. Describe one of them in brief. $2+3=5$
 - Write a short note on disposal of etchants. 5
 - What are various artwork generation methods? Briefly describe one of them. $1+4=5$
 - What is surface mount technologies for manufacturing PCBs? Mention some of its advantages and disadvantages. 5
 - Write short notes on cleaning of PCBs. 5
3. Answer any **one** of the following: $10 \times 1 = 10$
- Explain the process of manufacturing Single Layer PCB. 10
 - What are the various techniques adopted for preparing layout? Explain briefly a popular technique. $2+8=10$
 - Explain in brief the steps followed in photo printing process. 10