

B.Tech. Fourth Semester (Polymer (Plastic) Technology) (CGS)
11107 : Materials Science & Technology : 4 PP 04

P. Pages : 2

Time : Three Hours



AU - 2628

Max. Marks : 80

- Notes :
1. Answer Three question from Section A and Three question from Section B.
 2. Due credit will be given to neatness and adequate dimensions.
 3. Diagrams and chemical equations should be given wherever necessary.
 4. Illustrate your answer necessary with the help of neat sketches.
 5. Discuss the reaction, mechanism wherever necessary.
 6. Cell phone use is not allowed.
 7. Use of pen Blue/Black ink/refill only for writing the answer book.

SECTION - A

1. a) Write down mechanical properties of materials. 6
b) Discuss the extrusion technique used for processing of metals and alloys. 7

OR

2. a) How does the materials are selected for designing of equipments in the process industries? 7
b) Discuss single crystals and polycrystalline metals. 6
3. a) Distinguish between pure iron, cast iron, mild steel and stainless steel. 6
b) How mild steel and stainless steel are manufactured? State properties and applications of it in chemical process industries. 7

OR

4. a) Discuss heat treatment of plain carbon steels. 6
b) What do you mean by phase diagram? How does iron-carbon carbide phase diagram is useful? 7
5. a) Name any two non-ferrous metals used in process industries, Distinguish between non-ferrous metals with ferrous metals in terms of their properties. 7
b) How would you classify thermoplastics with thermosetting polymers on the basis of thermal response? 7

OR

6. a) Discuss creep and fracture of polymeric materials. 7
b) What is polymerisation reaction? Distinguish between addition polymerisation with condensation polymerisation. 7

SECTION – B

7. a) What are different types of inorganic materials? Discuss the manufacturing process of cement in detail. 8
- b) Define ceramic and glass material. Discuss their applications in detail. 6

OR

8. Discuss manufacturing process, properties and applications of reinforced and prestressed concrete. 14
9. a) What are different types of corrosion? Discuss any one type of corrosion. 7
- b) Discuss mechanism of corrosion. How would you prevent corrosion? 6

OR

10. a) Discuss the polyaniline and anticorrosive surface coating used for prevention of corrosion problems. 7
- b) Explain in detail electrochemical corrosion process. 6
11. a) What is coating? Why it is needed on any substrate? 6
- b) Discuss organic paints coating in chemical process industry. 7

OR

12. Describe in brief general criteria for selection of materials of construction in process industries. 13

<http://www.sgbauonline.com>

Whatsapp @ 9300930012

Your old paper & get 10/-

पुराने पेपर्स भेजे और 10 रुपये पायें,

Paytm or Google Pay से