

First Semester B. Tech. (FPOPC) Polymer (Plastic) Examination

MECHANICAL TECHNOLOGY

Paper – 1 SCT

(USC – 11704)

P. Pages : 3

Time : Three Hours]

[Max. Marks : 80

- Note :** (1) Separate answer book must be used for each section in the subject Geology, Engineering material of civil branch and Separate answer book must be used for Section A and B in Pharmacy and Cosmetic Tech.
- (2) Answer **Three** questions from Section A and **Three** questions from Section B.
- (3) Due credit will be given to neatness and adequate dimensions.
- (4) Diagrams and Chemical equations should be given wherever necessary.
- (5) Illustrate your answer wherever necessary with the help of neat sketches.

SECTION A

1. (a) List and discuss some of the important properties of non - ferrous metals and alloys. 7
- (b) What are different manufacturing process ? Explain any two. 7

OR

2. (a) What are the necessary properties of metals used in foundry ? 7
- (b) Name the various nickel based on Alloys and list their various uses. 7
3. (a) Explain with neat sketch :—
- (1) Sweep pattern
- (2) Multipiece pattern. 6
- (b) Explain the requirement of good gating system. Sketch the common gating system and explain the function of its various elements. 7

OR

4. (a) Explain the following :—
(1) Green sand
(2) Core and boxes. 6
(b) What are different properties of moulding sand ? Explain . 7
5. (a) Discuss various defects due to :—
(1) Inclusion of sand
(2) Absorption of gases
(3) Mismatch. 6
(b) Explain with neat sketch the process of investment casting method with its application. 7

OR

6. (a) Explain in detail slush casting method and die casting method. 7
(b) Explain any three casting defects with causes and remedies. 6

SECTION B

7. (a) What are cutting tool materials ? Explain any two. 6
(b) Discuss the importance of Rake angle, with its different types and application. 7

OR

8. (a) Explain compound gear trains with neat sketch. 7
(b) What properties should cutting fluid possess ? Classify and describe various cutting fluids. 6

9. (a) List out various operation performed on Lathe machine and Explain any three. 7
(b) What is shaper ? How will you specify shaper machine ? 6

OR

10. (a) List out different parts of lathe and explain any three. 7
(b) Explain with neat sketch :—
(1) Turning
(2) Facing
(3) Drilling 6

11. (a) Describe with neat sketch, Thermit welding and its advantages. 7
(b) What are various electrodes used in arc welding ? Also explain about electric arc welding. 7

OR

12. (a) Differentiate brazing and soldering. Give its limitation. 7
(b) Explain in detail gas welding and state its advantages. 7

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