



C20-CHPP-403

7472

BOARD DIPLOMA EXAMINATION, (C-20)

OCTOBER/NOVEMBER—2023

DCHPP – FOURTH SEMESTER EXAMINATION

POLYMER ADDITIVES AND PLASTIC TESTING

Time : 3 Hours]

[Total Marks : 80

PART—A

3×10=30

- Instructions :** (1) Answer **all** questions.
(2) Each question carries **three** marks.
(3) Answers should be brief and straight to the point and shall not exceed five simple sentences.

1. Define the terms (a) A.S.T.M and (b) D.N.A.
2. Draw a neat sketch of izod test specimen and label it.
3. Define viscosity of polymer materials. Write its units.
4. Explain about water absorption of plastics.
5. What is clarity? Write standardization of clarity meter.
6. What is thermal conductivity? Write its standardization.
7. Explain about degree of yellowness.
8. What are anti-blocking agents? Give examples.
9. What are antistatic agents? Give examples.
10. What are lubricants?

- Instructions :** (1) Answer **all** questions.
(2) Each question carries **eight** marks.
(3) Answers should be comprehensive and criterion for valuation is the content but not the length of the answer.

11. (a) What is tensile strength? Explain the test procedure of tensile strength of plastics with a neat sketch.

(OR)

(b) What is hardness? Explain the test procedure of Brinell hardness test of plastics with a neat sketch.

12. (a) What is flexural strength? Explain the test procedure of flexural strength test with a neat sketch.

(OR)

(b) Explain the following :

(i) Tear resistance

(ii) Abrasion resistance

13. (a) What is water vapour transmission? Explain the test procedure of water vapour transmission.

(OR)

(b) What is bulk density? Explain the test procedure of bulk density with a neat sketch.

14. (a) What is Vicat softening point? Explain the test procedure of Vicat softening point with a neat sketch.

(OR)

(b) What is gloss? Explain the test procedure of glossmeter with a neat sketch.

15. (a) Explain the following :

(i) Fillers

(ii) Stabilizers

(OR)

(b) Explain the following additives :

(i) Plasticizers

(ii) Foaming agents

PART—C

10×1=10

- Instructions :** (1) Answer the following question.
(2) The question carries **ten** marks.
(3) Answer should be comprehensive and the criterion for valuation is the content but not the length of the answer.

16. Write the important additives and write their selection criteria for commercial polymers in industries.

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