

5814

4

6. Write a short note on :

(a) Alumina trihydrate as heat stabiliser

(b) Metal deactivators

(c) Coupling agent

(5×3=15)

(200)

[This question paper contains 4 printed pages.]

Your Roll No.....

Sr. No. of Question Paper : 5814

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Unique Paper Code : 6092012302

Name of the Paper : Plastic Additives

Name of the Course : B.Sc. (H) Polymer Science

Semester : III

Duration : 3 Hours

Maximum Marks : 90

Instructions for Candidates

1. Write your Roll No. on the top immediately on receipt of this question paper.
2. Attempt **five** questions in all. Question no. 1 is Compulsory.
3. Draw neat and labelled diagram wherever necessary.
4. All questions (except Q1) carry 15 marks.

1. (a) Explain the importance of peroxide decomposer in respect of stabilisation of plastic.
(b) What is additives? Explain the significance of additives in plastic processing.

P.T.O.

5814

2

- (c) Explain the role of TBLS in PVC processing.
 - (d) Discuss the role of silicate as a filler in thermoplastics.
 - (e) Elaborate the use of functional filler with examples.
 - (f) What are plasticizers? Explain its use plastics.
 - (g) Write a note on limiting oxygen index.
 - (h) Explain the effect of impact modifiers in plastic.
 - (i) Compare the lubricant and flow promoters with example.
 - (j) Write a short note on basic features of a blowing agent. (10×3=30)
2. (a) Explain the use of inorganic pigments used in plastic processing with example.
- (b) Write the flame-retardant mechanism of halogen-based flame retardants.
- (c) Discuss the advantages of stearated calcium carbonate as filler over normal calcium carbonate. (5×3=15)

5814

3

3. Give formulation and compounding process for the following products based on PVC
- (a) Flexible PVC Pipe
 - (b) Insulation cables
 - (c) Vinyl flooring (5×3=15)
4. (a) Describe glass fibre as a reinforcing filler in plastic technology.
- (b) Discuss the function of titanium oxide as plastic additives.
- (c) Describe the use of UL-94 in assessment flame retardancy in plastic. (5×3=15)
5. (a) What is plasticizer? Explain the basic theory and use hydrocarbon as plasticise plasticizer.
- (b) Explain the effect of size on the effectiveness of filler?
- (c) Write a short note on "Mixture" for compounding of plastic additives. (5×3=15)

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