

B.Tech. Sixth Semester (Polymer (Plastic) Tech.) (CGS)
11127 : Elastomer Technology : 6 PP 02

P. Pages : 2

Time : Three Hours



AU - 2809

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. Assume suitable data wherever necessary.
 4. Diagrams and chemical equations should be given wherever necessary.
 5. Illustrate your answer necessary with the help of neat sketches.
 6. Discuss the reaction, mechanism wherever necessary.
 7. Use of pen Blue/Black ink/refill only for writing the answer book.

SECTION - A

1. a) What do you mean by Elastomer? Discuss basic raw materials, properties & characteristic properties of Elastomers. 7
b) Explain mastication and compounding process in rubbery industry. 6

OR

2. a) How would you prepare air-dried sheet smoked dried sheet from latex rubber? 7
b) Discuss storage, hardening and crystallization of natural rubber? 6
3. a) Explain in detail manufacturing process of Nitrile rubber? 6
b) What do you mean by Vulcanization? Explain the type of vulcanization & its significance. 7

OR

4. a) Discuss characteristic properties and application of oil extended rubber? 6
b) State the important factors & condition which affects vulcanization. 7
5. Explain the processing, properties & applications of followings :- 14
i) SBR ii) Butyl Rubber.

OR

6. What do you mean by Retrading of fire? Discuss the design aspect consideration & design patterns for retrading of fire? 14

SECTION - B

7. a) What do you mean by Additives? Give its different type & their role in polymer compounding. 9

- b) What are colourant? State it's few example with its selection criteria. 5

OR

8. a) What are plasticizers? Give it's role in compounding and any two theories for study. 9
b) What are lubricant? Give with examples its various type. 5
9. Give properties and selection criteria for the following additives :- 13
i) Processing aid
ii) U.V. stabilizers.
iii) Flame retardants.

OR

10. What are the different Antiaging additives used in compounding? 13
Give their detail properties and selection criteria to study.
11. a) Explain in detail preparation, properties and application of Animal Glue and Fish Glue. 9
b) What are the basic requirements for any substance to be selected as an adhesive? 4

OR

12. a) Define & explain the following terms :- 4
i) Adhesion
ii) Adherent
iii) Adhesive.
- b) Give process details, properties and application of any two commercial adhesive. 9

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