

7. (a) What do you mean by latex compounding?
- (b) Give the preparation reaction of
- (i) Vinyl acetate
 - (ii) ethylene glycol.
- (c) How the dispersion quality can be checked in the latex? (3×5=15)

[This question paper contains 4 printed pages.]

Your Roll No.....

Sr. No. of Question Paper : 5833

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Unique Paper Code : 6092011102

Name of the Paper : Raw Materials for Polymers (RMP)

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

Semester : I

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 **six** questions in all.
3. Question No. 1 is compulsory.

1. (a) Write the importance of cracking in petroleum industry.

(b) Explain the role of thickening agent in balloon preparation.

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- (c) Discuss primary steps required for mixing of sulphur to latex.
- (d) Why is petroleum regarded as fossil fuel?
- (e) What is positex. (5×3=15)
2. (a) How is latex stabilized? Explain the factors which affect the stability of latex.
- (b) Illustrate the dispersion quality of latex?
- (c) Discuss coagulant dipping of latex? (3×5=15)
3. (a) Write a short note on latex concentration process.
- (b) Why Zinc Di -thiocarbamate (ZDC) is used as accelerator in latex product.
- (c) Name any three additives that are used in latex but not in solid rubber. Write about them? (3×5=15)
4. (a) Discuss the synthesis of ethylene oxide monomer from petrochemical.

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- (b) (i) Synthesis of styrene from ethyl benzene
- (ii) Synthesis of adipic acid monomer from cyclohexane.
- (c) Explain the role of bi-functional catalyst in hydrocracking? (3×5=15)
5. (a) What is desalting? What are the main processes?
- (b) Discuss the crude distillation of petroleum along with flow diagram?
- (c) Illustrate the catalytic reforming of petroleum? (3×5=15)
6. (a) Explain the catalytic cracking of petroleum?
- (b) What do you mean by second generation petrochemicals? Discuss butadiene route for the synthesis of adiponitrile.
- (c) Explain the electrochemical process for the production of hexamethylenediamine monomer. (3×5=15)

P.T.O.