

[This question paper contains 2 printed pages.]

Your Roll No.....

Sr. No. of Question Paper : 2042

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Unique Paper Code : 6092012403

Name of the Paper : Recycling and Waste management

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

Semester : III (DSC)

Duration : 2 Hours

Maximum Marks : 60

Instructions for Candidates

1. Write your Roll No. on the top immediately on receipt of this question paper.
2. Attempt **four** questions in all.
3. Draw neat and labelled diagram wherever necessary.

1. (5×3=15)

- (a) What are the importance of sorting in recycling of polymers?
- (b) Compare different spectroscopic methods of sorting.
- (c) What are the main features of EPR (extended producer's responsibility) ?
- (d) Name 5R's of waste management and discuss the significance of each of them.
- (e) What are the liquid onsite disposal methods. Discuss in brief.

2. (3×5=15)

- (a) Compare primary and secondary recycling processes.
- (b) What is gasification process? Explain in detail.
- (c) Compare pyrolysis and incineration.

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3. (3×5=15)
- (a) What are the major challenges faced during EPS recycling?
 - (b) What are the types of selective dissolution? Discuss.
 - (c) Write down the advantages and disadvantages of sink-floatation technique.
4. (3×5=15)
- (a) Describe the chemical recycling method of PET?
 - (b) What is tyre retreading? Discuss its type and the steps followed.
 - (c) Discuss the advantages and disadvantages of addition of recycled powdered rubber in virgin rubber as filler.
5. (3×5=15)
- (a) What is controlled tipping? What are its significance?
 - (b) What are the four pillars of LCA? Discuss.
 - (c) Discuss composting in detail.