



CHEMISTRY

BOOKS - VIKRAM PUBLICATION (ANDHRA PUBLICATION)

POLYMERS

Textual Examples

1. Is $[-CH_2 - CH(C_6H_5 -)]_n$ a

homopolymer or a copolymer?



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2. A polymer contains 10 molecules with molecular mass 10,000 and 10 molecules with molecular mass 1,00,000. Calculate number-average molecular mass.



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Very Short Answer Questions

1. Define the terms monomer and polymer.

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2. What are polymers ? Give example.

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3. What is polymerization? Give an example of polymerization reaction.

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4. Give one example each for synthetic and semi-synthetic polymers.



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5. How are the polymers classified on the basis of structure ?



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6. Give one example each for linear and branched chain polymers.



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7. What are cross linked (or network) polymers:? Give example.



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8. What is addition polymer ? Give example .

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9. What is condensation polymer ? Give example.

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10. What are homopolymers ? Give example.

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11. What are copolymers ? Give example .

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12. Is $-\left[CH_2 - CH(C_6H_5) - \right]_n$ homopolymer or a copolymer ?

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13. Is $(NH - CHR - CO)_n$ a homopolymer or a copolymer ?



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14. What are the classes of the polymer based on molecular forces ?



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15. What are elastomers? Give example.



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16. What are fibres ? Give example .



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17. What are thermoplastic polymers? Give example.



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18. What are thermosetting polymers? Give example .



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19. Write the name and structure of one of the common initiators used in free radical polymerization reaction .



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20. How can you differentiate between addition and condensation polymerization?



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21. What is Ziegler-Natta catalyst ?



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22. How is Dacron obtained from ethylene glycol and terephthalic acid ?



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23. What are the repeating monomeric units of Nylon 6 and Nylon 6,6 ?



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24. Explain the difference between Buna -N and Buna-S .



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25. Arrange the following polymers in increasing order of their molecular forces.

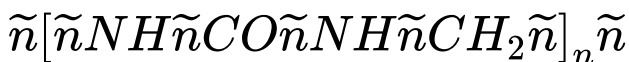
Nylon 6,6 Buna -S ,polythene

ii)Nylon 6, Neoprene, polyvinyl chloride



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26. Identify the monomer in the following polymeric structures





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27. Name the different types of molecular masses of polymers .



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28. What is PDI (Poly Dispersity Index) ?



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29. What is vulcanization of rubber ?



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30. What is the cross linking agent used in the manufacture of tyre rubber ?



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31. What is biodegradable polymer ? Give one example of a biodegradable polyester ?



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32. What is PHBV ? How is it useful to man ?



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33. Give the structure of nylon 2-nylon 6 ?



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Short Answer Question

1. Classify the following into addition and condensation polymers

i) Terylene

ii) Bakelite

iii) Polyvinyl chloride

iv) Polythene



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2. How do you explain the functionality of a polymer ?



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3. Distinguish between the terms homo polymer and co polymer. Give one example of each.



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4. Define thermoplastics and thermosetting polymers with two example of each.



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5. Explain copolymerization with an example .



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6. Explain free radical mechanism for the polymerization of ethene.



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7. write the name and structures of the monomers used for getting the following

polymers

i) Polyvinyl ii) Teflon iii) Bakelite iv) Polystyrene.



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8. Write the names and structures of the monomers of the following polymers.

i) Buna -S ii) Buna -N iii) Dacron iv) Neoprene



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9. What is natural rubber ? How does it exhibit elastic properties ?



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10. Explain the purpose if vulcanization of rubber .



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11. Explain the difference between natural rubber and synthetic rubber .



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12. How does the presence of double bonds in rubber molecules influence their structure and reactivity ?



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13. What do LDP and HDP signify ? How are these prepared ?



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14. What are natural and synthetic polymers ?
Give two examples of each type .



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15. Write notes on different types molecular masses of polymers .



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Long Answer Questions

1. Write an essay on i) Addition polymerization and ii) Condensation polymerization.



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2. Explain the classification of polymers based on their source and structure .



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3. Explain the classification of polymers based on the mode of polymerization and nature of molecular forces.



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4. What are synthetic rubber ? Explain the preparation and uses of the following

i) Neoprene ii) Buna -N iii) Buna -S



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Intext Questions

1. What are polymers ? Give example.



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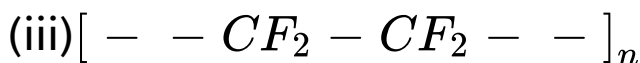
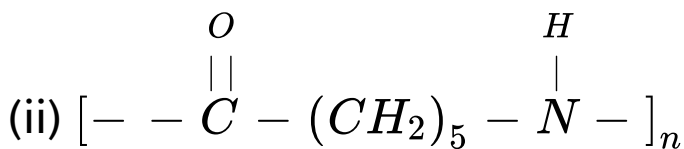
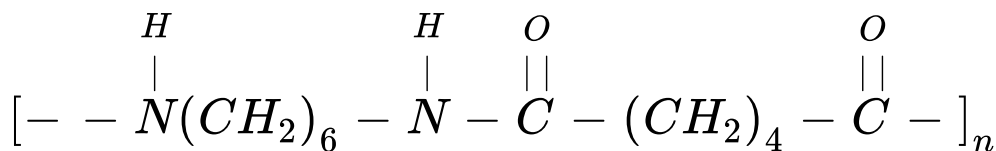
2. How are polymers classified on the basis of structure ?



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3. Write the names of monomers of the following polymers.

(i)





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4. Classify the following into addition and condensation polymers

i) Terylene

ii) Bakelite

iii) Polyvinyl chloride

iv) Polythene



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5. Explain the difference between Buna -N and Buna-S .



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6. Arrange the following polymers in increasing order of their intermolecular forces.

Nylon ,6,6 Buna -S ,Polythene .

Nylon 6,Neoprene , Polyvinyl chloride .



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