

SEAT No. _____

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SARDAR PATEL UNIVERSITY
T.Y.B.Sc. SEMESTER – VI (Industrial Chemistry)
EXTERNAL EXAMINATION
SUB CODE: US06CICH22 (Polymer Technology)



DATE: 05/04/2022

DAY: Tuesday

TIME: 03:00 to 5:00 P.M.

TOTAL MARKS: 70

Q.1 Choose the correct answer.

[10]

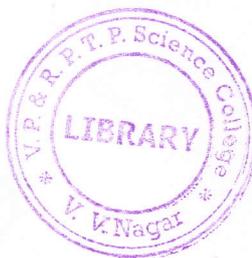
- Molecular mass of a polymer is _____
a) Small. b) Large. c) Very small. d) negligible.
- Peroxide are generally used as _____
a) Initiator b) Inhibitor c) promoter d) Retarder
- Cellulose is example of _____ polymer.
a) natural b) semi synthetic c) synthetic d) plastic.
- Molecular Mass of polymer is always expressed in.....term.
a) Absolute b) Average c) Both a and b d) None of These
- Temperature boundary between plastic and elastic phase of polymer is denoted as
a) glass transition temperature b) melting point c) boiling point d) vaporization point
- The reaction between the epichlorohydrin and Bis phenol A gives _____
a) Epoxy resin b) Polyurethane c) Amine resin d) PF resin
- Flexible Foam are usually made up of _____
a) PVC b) Polyurethane c) Polyamide d) Silicon Rubber
- Phenol formaldehyde resin is commercially know as _____
a) PVC b) Elastomer c) Bakelite d) Nylon
- _____ is the homopolymer of caprolactum.
a) Nylon 6 b) Nylon 66 c) Nylon 10 d) Nylon 12
- _____ solution may be used as the coagulant to give SBR.
a) Alum b) Silica c) Sulphuric acid d) Sodium carbonate.

Q.2 Fill in the blanks and True-False.

[08]

- Functionality of phenol is _____
- A- Stereo Regular polymers are called as Isotactic. (True/False)
- The viscosity average mass of polymer is written as M_v . (True/False)
- Tg of polyethylene is -125°C . (True/False)
- Functionality of Melamine is Three. (True/False)
- Bakelite is a copolymer of Phenol & Formaldehyde. (True/False)
- Sulphur is used as a vulcanizing agent. (True/False)
- Nylon are Polyamide. (True/False)

(1)



P.T.O.

Q.3 Answer the following.(attempt any 10 out of 12)

[20]

1. Give the classification of polymer based on thermal response.
2. Define: Monomer & Oligomer.
3. Define initiator & Inhibitor
4. Explain the term crystallinity and degree of crystallinity.
5. What is glass transition temperature?
6. Enlist & express the method of average molecular weight.
7. Draw the flow chart of urea formaldehyde resin.
8. What is polyol? How many types of polyols?
9. Give the preparation of isocyanates by phosgenation process.
10. Write the synthesis of chloroprene.
11. Write the different Grade of Nylon.
12. Give the example of five Synthetic fibers.



Q4. Long Answer Question (Attempt any 4 out of 8)

[32]

1. Give the classification of polymer based on molecular arrangement & tacticity.
2. Write a short note on Ziegler Natta catalyst.
3. Explain the weight average concept in detail.
4. Explain the relation between structural regularity & crystallisability.
5. Explain the process of manufacturing phenol formaldehyde novolak resin.
6. Write a note on PTFE.
7. Write a note on Styrene butadiene rubber.
8. Explain in detail about liquid-crystal polymers.

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