



12th Science : Chemistry  
Introduction to Polymer Chemistry,

DATE:

TIME: 1 hour

MARKS: 25

SEAT NO:

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**Note:-**

1. All Questions are compulsory.
2. Numbers on the right indicate full marks.

**Section A**

**Q.1 Select and write the correct answer.**

**(4)**

1. Which is a linear polymer?  
A) Nylon-6, 6    B) Bakelite  
C) Melamine    D) Gutta-percha
2. Silk is a kind of \_\_\_\_ fibre  
A) semisynthetic    B) synthetic  
C) animal    D) vegetable
3. Which of the following is copolymer?  
A) Orlon    B) Teflon  
C) PVC    D) PHBV
4. Which of the following is a chain growth polymer?  
A) Nucleic acid    B) Polystyrene  
C) Protein    D) Starch

**Q.2 Answer the following.**

**(3)**

1. Give the example of man-made material we use in our daily life.
2. What is the origin of the numbers 2 and 6 in the name of this polymer?
3. Define Vulcanization

**Section B**

**Attempt any Four**

- Q.3 Refer to the following table listing for different polymers formed from respective monomer. Identify from the list whether it is copolymer or homopolymer.

**(2)**

<b>Monomer</b>	<b>Polymers</b>
1. Ethylene	1. Polyethylene
2. Vinyl chloride	2. Polyvinyl chloride
3. Isobutylene	3. Polyisobutylene
4. Acrylonitrile	4. Polyacrylonitrile
5. Caprolactum	5. Nylon 6
6. Hexamethylene diammonium adipate	6. Nylon 6, 6
7. Butdiene + styrene	7. Buna-S

- Q.4 Write the name and formula of raw material from which bakelite is made.

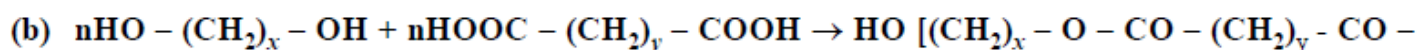
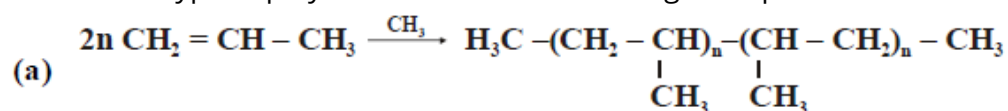
**(2)**

Q.5 The critical degree of polymerization is low for nylon 6 while high for polythene. Explain. (2)

Q.6 What is the role of benzoyl peroxide in polymerization of ethene? (2)

Q.7 What are polyamide polymer (2)

Q.8 What is the type of polymerization in the following examples?



### Section C

#### Attempt any Two

Q.9 Write a note on vulcanization of rubber. (3)

Q.10 How the natural rubber get removed from the tress? (3)

Q.11 Distinguish between thermosetting and thermoplastic resins, Write examples of both the classes. (3)

### Section D

#### Attempt any One

Q.12 Write the name of the classes of polymers formed according to intermolecular forces and describes briefly their structural characteristics. (4)

Q.13 Explain the free radicals mechanism by three steps involve in it. (4)