CHEMISTRY

BOOKS - NCERT CHEMISTRY (ENGLISH)

POLYMER

Multiple Choice Question Mcqs

1. Which of the following polymers of glucose is stored by animals?

A. Cellulose

B. Amylose

C. Amylopectin

D. Glycogen

Answer: D

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2. Which of the following is not semisynthetic polymer?

A. cis polysioprene

B. Cellulose nitrate

C. Cellulose acetate

D. Vulcanised rubber

Answer: A

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3. The comercial name of polyacrylonitrile is .....

A. dacron

B. orlon (acrilan)

C. PVC

D. bakelite

Answer: B

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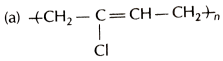
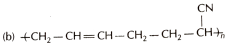
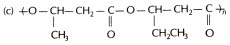
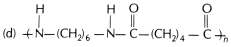
4. Which of the following polymers is bodegradable?

A. 

B. 

C. 

D. 

Answer: C

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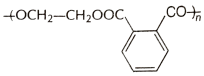
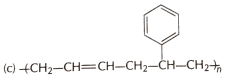
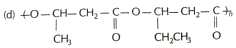
5. In which of the following polymers ethylene gylcol is one of the monomer units?

A. 

B. (b) $+CH_2-CH_2+_n$

C. 

D. 

Answer: A

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6. Which of the following statements is not true about low sensity polyethene?

A. Low cost

B. Hard

C. Poor conductor of electricityh

D. Highly branched structure

Answer: B

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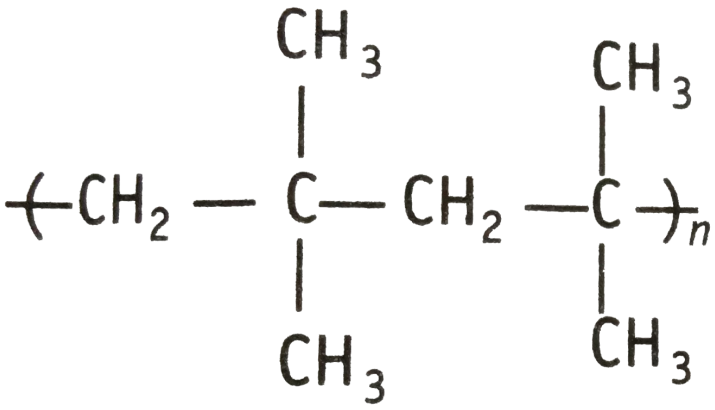
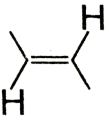


7. is a polymer having monomer units.....

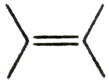
A.

(b) 

B.

(c) 

C.

(d) 

D.

Answer: A

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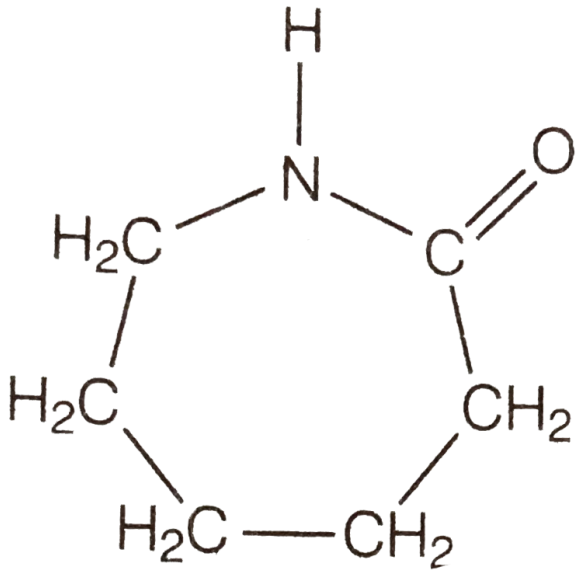
8. Which of the following polymer can be formed by using the following monomer units



A. Nylon-6,6

B. Nylon-2-nylon-6

C. Melamine polymeer

D. Nylon-6

Answer: D

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9. Why should the monomer used in addition polymerisation through free radical pathway be very pure?

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Multiple Choice Question More Than One Option

1. Which of the following polymers, need atleast one diene monomer for their preparation?

A. Dacron

B. Buna-s

C. Neoprene

D. Novalac

Answer: B::C

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2. Which of the following characteristics of thermosetting polymers?

A. Heavily branched cross linked polymer s

B. Linear slightly branched long chain molecules

C. Become infusible on moulding so cannot be reused

D. Soften on heating and harden on cooling can be reused

Answer: A::C

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3. Which of the following polymers are thermoplastic?

A. Teflon

B. Natural rubber

C. Neoprene

D. Polystyrene

Answer: A::D

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4. Which of the following polymers are used as fibre?

A. Polytetraflueroethane

B. polychloroprene

C. Nylon

D. Terylene

Answer: C::D

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5. Which of the following are addition polymers?

A. Nylon

B. Melamine formaldehyde resin

C. Orlon

D. Polystyrene

Answer: C::D

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6. Which of the following polymers are condensation polymers?

A. Bakelite

B. Teflon

C. Butyl rubber

D. Melamine formaldehyde resin

Answer: A::D

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7. Which of the following monomers form biodegradable polymers?

A. 3-hydroxybutanoic acid + 3-hydroxypentanoic acid

B. Gylcine+amino caproic acid

C. Ethylene glycol + phthalic acid

D. Capraolactum

Answer: A::B

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8. Which of the following are example of synthetic rubber?

A. Polychloroprene

B. Polyacrylonitrile

C. Buna-N

D. cis- polysioprene

Answer: A::C

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9. Which of the following polymers can have strong intermolecular forces ?

A. Nylon

B. Polystyrene

C. Rubber

D. Polysters

Answer: A::D

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10. Which of the following polymers are having vinylic monomer units

A. Acrilan

B. Polystyrene

C. Nylon

D. Teflon

Answer: A::B::D

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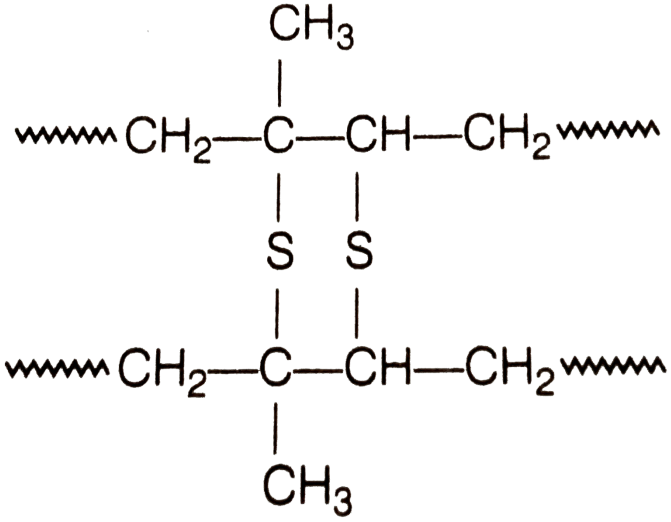
11. Vulcanised rubber is .....



A. more elastic

B. soluble in inorganic solvent

C. crystalline

D. more stiff

Answer: A::D

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Short Answer Type Questions

1. A natural linear polymer of 2 methyl -1,3 - butadiene becomes hard on treatment with suphur between 373 to 415 K and -s - s- bonda are formed between chains.Write the structure of the product of this treatment?

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2. Identify the type of polymer

-A-A-A-A-A-A-

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3. Identify the type of polymer

-A-B-B-A-A-A-B-A-

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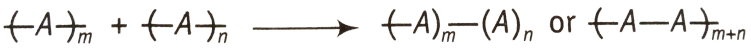
4. out of chain growth polymerisation and step growth polymerisation,in which type will you place the following



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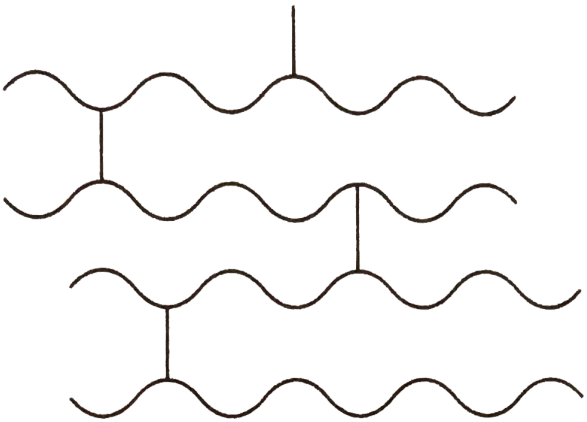
5. Identify the type of polymer given in the following figure



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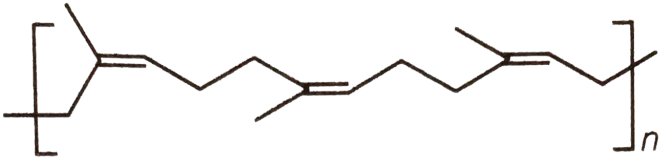
6. Identify the polymer given below



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7. why are rubber called elastomers?

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8. can enzyme be called a polymer?

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9. Can nucleic acid protein and starch be considered as step growth polymers?

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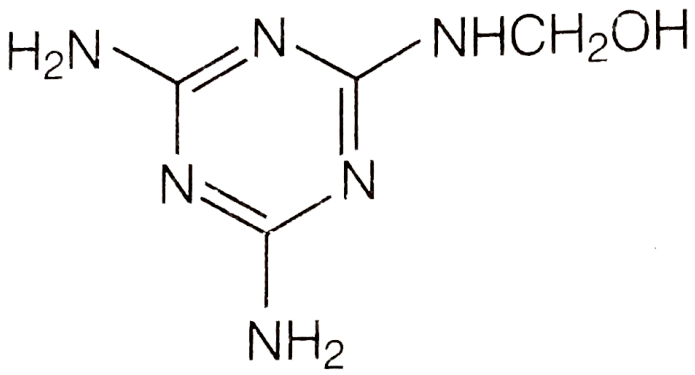
10. How is the following resin intermediate prepared and which polymers is formed by

this monomer unit?



Resin intermediate

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11. To have practical applications why are cross links quetioined in rubber?

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12. Why does cis polyisoprene posses elastic porperty?

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13. What is the structural difference between HDP and LDP? How does the structure account for different behaviour and nature hence use of polymer?

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14. What is the role of benzoyl peroxide in addition polymerisation of alkenes? Explain its mode of action with the help of an example

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15. Which factor imparts crystalline nature to a polymer like nylon?

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16. Name the polymer used in laminating sheets and give the name of monomeric units involved in its formation

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17. Which type of biomolecules have some structural similarity with synthetic cpolyamides? What is similarity?

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Matching The Columns

1. Match the polymer of column I with correct monomer of column II

	Column I		Column II
A.	High density polyethene	1.	Isoprene
B.	Neoprene	2.	Tetrafluoro ethene
C.	Natural rubber	3.	Chloroprene
D.	Teflon	4.	Acrylonitrile
E.	Acrilan	5.	Ethene

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2. Match the polymer given in Column I with their chemical names given in Column II

Column I	Column II
(a) Nylon 6	(i) Polyvinyl chloride
(b) PVC	(ii) Polyacrylonitrile
(c) Acrilan	(iii) Polycaprolactum
(d) Natural rubber	(iv) Low density polythene
(e) LDP	(v) cis-polyisoprene

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3. Match the polymers given in column I with their commerical names given in column II

	Column I		Column II
A.	Polyester of glycol and phthalic acid	1.	Novolac
B.	Copolymer of 1, 3-butadiene and styrene	2.	Glyptal
C.	Phenol and formaldehyde resin	3.	Buna-S
D.	Polyester of glycol and terephthalic acid	4.	Buna-N
E.	Copolymer of 1,3- butadiene and acrylonitrile	5.	Dacron

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4. Match the polymers given in column I with their main applications given in column II

Column I		Column II	
A.	Bakelite	1.	Unbreakable crockery
B.	Low density polyethene	2.	Non-stick cookwares
C.	Melamine-formaldehyde resin	3.	Packaging material for shock absorbance
D.	Nylon-6	4.	Electrical switches
E.	Polytetrafluoroethane	5.	Squeeze bottles
F.	Polystyrene	6.	Tyre, cords

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5. Match the polymers given in column I with the preferred mode of polymerisation

followed by their monomers columnII

Column I	Column II
A. Nylon-6,6	1. Free radical polymerisation
B. PVC	2. Ziegler-Natta polymerisation or coordination polymerisation
C. HDP	3. Anionic polymerisation
	4. Condensation polymerisation

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6. Match the polymers given in column I with the type of linkage present in them given in

column II

Column I		Column II	
A.	Terylene	1.	Glycosidic linkage
B.	Nylon	2.	Ester linkage
C.	Cellulose	3.	Phosphodiester linkage
D.	Protein	4.	Amide linkage
E.	RNA		

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7. Match materials given in column I with the polymers given in column II

Column I		Column II	
A.	Natural rubber latex	1.	Nylon
B.	Wood laminates	2.	Neoprene
C.	Ropes and fibres	3.	Dacron
D.	Polyester fabric	4.	Melamine formaldehyde resins
E.	Synthetic rubber	5.	Urea-formaldehyde resins
F.	Unbreakable crockery	6.	*cis*-polyisoprene

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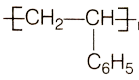
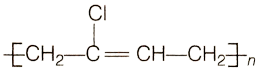
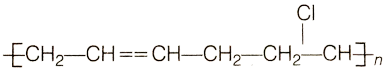
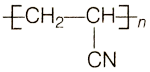
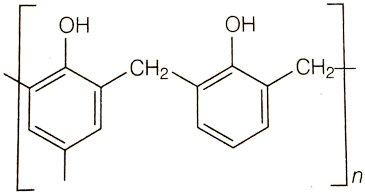
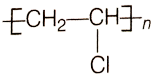
8. Match the polymers given in column I with their repeating units given in column II

Column I	Column II
A. Acrilan	1. 
B. Polystyrene	2. 
C. Neoprene	3. 
D. Novolac	4. 
E. Buna–N	5. 
	6. 

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Assertion And Reason

1. Assertion (A) Rayon is a semisynthetic polymer and is taken as a better choice than cotton fabric.

Reason (R) Rayon is a semisynthetic polymer and is taken as a better choice than cotton fabric

Reason (R) Mechanical and aesthetic properties of cellulose can be improved by Acetylation

A. Assetion and Reason both are correct statement But reason does not explain Assertion

B. Assertion and Reason both are correct statements and Reason explains the Assertion.

C. Both assertion and reason are wrong sttement s

D. Assertion is correct statement and Reason is worng statement.

Answer: B

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2. Assertion (A) Most of the synthetic polymers are not biodegradable

Reason (R) Polymerisation process induces toxic character in organic molecules

A. Assetion and Reason both are correct statement But reason does not explain Assertion

B. Assertion and Reason both are correct statements and Reason explains the Assertion.

C. Both assertion and reason are wrong sttement s

D. Assertion is correct statement and Reason is worng statement.

Answer: d

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3. Assertion (A) Olefinic monomers undergo addition polymerisation

Reason (R) Polymerisation of vinyl chloride is initiated by peroixdes/persulphates

(a)Assertion and Reason both are correct statement But reason does not explain Assertion

(b)Assertion and Reason both are correct statements and Reason explains the Assertion.

(c)Both assertion and reason are wrong statements

(d)Assertion is correct statement and Reason is wrong statement

A. Assetion and Reason both are correct statement But reason does not explain Assertion

B. Assertion and Reason both are correct statements and Reason explains the Assertion.

C. Both assertion and reason are wrong sttement s

D. Assertion is correct statement and Reason is worng statement.

Answer: a

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4. Assertion (A) Polyamides are best used fas fibres because of high tensile strength.

Reason (R) Strong intermolecular foces (like hydrogen bonding within polyamides) lead to close packing of chains and increase the

crystalline character hence , provide high tensile strength to polymers

A. Assetion and Reason both are correct statement But reason does not explain Assertion

B. Assertion and Reason both are correct statements and Reason explains the Assertion.

C. Both assertion and reason are wrong sttement s

D. Assertion is correct statement and Reason is worng statement.

Answer: b

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5. Assertion (A) For making rubber synthetically isoprene molecules are polymerised .

reason (R) Neoprene (a polymer of chloroprene) is a syntheitc rubber

A. Assetion and Reason both are correct statement But reason does not explain Assertion

B. Assertion and Reason both are correct statements and Reason explains the Assertion.

C. Both assertion and reason are wrong sttement s

D. Assertion is wrong statement and Reason is correct statement.

Answer: e

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6. Assertion (A) Network polymers are thermosetting

Reason (R) Network Polymers have high molecular mass

A. Assetion and Reason both are correct statement But reason does not explain Assertion

B. Assertion and Reason both are correct statements and Reason explains the Assertion.

C. Both assertion and reason are wrong sttement s

D. Assertion is correct statement and Reason is worng statement.

Answer: a

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7. Assertion (A) Polytetrafluorothene is used in making non stick cookwares.

Reason (R) Fluorine has highest electronegativity.

A. Assetion and Reason both are correct statement But reason does not explain Assertion

B. Assertion and Reason both are correct statements and Reason explains the Assertion.

C. Both assertion and reason are wrong sttement s

D. Assertion is correct statement and Reason is worng statement.

Answer: a

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Long Answer Type Question

1. Synthetic polymers do not degrade in the environment for a long time. How can biodegradable synthetic piolymers be made.

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2. Differentiate between rubbers and plastics on the basis of intermolecular forces.

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3. Phenol and fomaldehyde undergo condensation to give a polymar (A) which on heating with formaldehyde gives a thermosetting polymer (B) Name the polymers. Write the reaction involved in the formation of (A) what is the structural difference between two polymers?

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4. Low density polythene and high density polythene both are polymers of ethene but there is marked difference in their prpperties. Explain.

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5. Which of the following polymers soften on heating and harden on colling? What are the polyfmers with this property collectively called ? What are the structural similarites between

such polymers? Bakelite urea formaldehyde resin , polythene, polyvinyls, polystyrene.

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