



CHEMISTRY

BOOKS - S CHAND IIT JEE

FOUNDATION

SYNTHETIC FIBRES AND PLASTICS

Question Bank 14

1. Fill in the blanks with appropriate words :

Synthetic fibres are also called _____ or _____

fibres.



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2. Fill in the blanks with appropriate words :

Synthetic fibres are synthesised from raw material called _____ .



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3. Fill in the blanks with appropriate words :

Like synthetic fibres, plastic is also a _____ .



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4. Fill in the blanks with appropriate words :

Cotton is a polymer called _____ .



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5. Fill in the blanks with appropriate words :

Rayon has properties similar to _____ and is there for called _____ .



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6. Fill in the blanks with appropriate words :

Nylon fibre is used in making ropes for rock climbing and parachutes because it is a very _____ fibre.



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7. Fill in the blanks with appropriate words :

Polyster is made up of the repeating units of a chemical called _____ .



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8. Fill in the blanks with appropriate words :

Polycot is a mixture of _____ and _____ .



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9. Fill in the blanks with appropriate words :

Synthetic fibres prepared using raw materials of petroleum origin are called _____ .



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10. Fill in the blanks with appropriate words :

There are two types of arrangement in plastics

_____ and _____ .



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11. Fill in the blanks with appropriate words :

Plastics which gets deformed easily on heating

and can be bent easily are called _____ .



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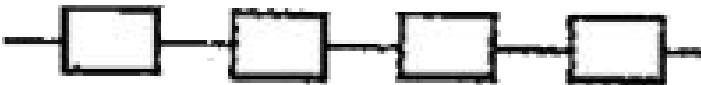
12. Fill in the blanks with appropriate words :

Plastics which when moulded once, cannot be softened by heating are called _____ plastics.

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13. Fill in the blanks with appropriate words :

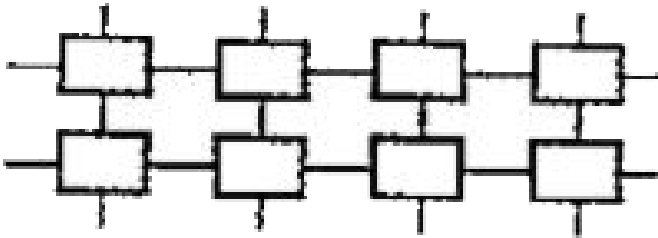
Figure (i) shows a _____ arrangement of units that make up _____ .



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14. Fill in the blanks with appropriate words :

Figure (ii) shows a _____ arrangement of units that make up _____ plastics.



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15. Fill in the blanks with appropriate words :

Firemen have coating of _____ plastic to make

them flame resistant.



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16. Fill in the blanks with appropriate words :

_____ is a plastic that is replacing materials like glass for making bottles and jars.



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17. Fill in the blanks with appropriate words :

A material which gets decomposed through

natural process is called _____ material.



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18. Fill in the blanks with appropriate words :

A material which is not easily decomposed by natural processes is termed as _____ material.



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19. Mark (✓) the correct answer.

Rayon is different from synthetic fibres

because

it has a silk like appearance



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20. Mark (✓) the correct answer.

Rayon is different from synthetic fibres

because

it is obtained from wood pulp



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21. Mark (✓) the correct answer.

Rayon is different from synthetic fibres because its fibres can be woven like those of natural fibres.



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22. Answer the following questions :

What is meant by a polymer?



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23. Answer the following questions :

Why plastic containers are favoured for storing food?



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24. Answer the following questions :

Why the following are made of thermosetting plastics.

(i) Saucepan handles

(ii) Electric plugs/switches/plug boards



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25. Answer the following questions :

Why is it better to wear cotton clothes in summers than clothes made from synthetic material?



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26. Answer the following questions :

Should the handles and bristles of tooth

brush be made of the same materials.



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27. Answer the following questions :

Which one is stronger a nylon wire or steel wire?



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28. Answer the following questions :

What is melamine? What are its uses?



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29. Answer the following questions :

What characteristic property of plastic makes it useful in making containers for storing different materials right from food items to various types of chemicals ?



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30. Answer the following questions :

Mention some of the uses of plastics in health care industry.



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31. Answer the following questions :

Tin takes about 100 years to degenerate. Is it biodegradable or non-biodegradable?



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32. Answer the following questions :

Out of three materials polythene, polyvinyl chloride and polystyrene, which material is best suited to cover electric wires and why?



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33. Answer the following questions :

Can pickles be stored in plastic containers?

Give reason for your answer.



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34. Answer the following questions :

Is it advisable to use recycled plastic containers for storing food?



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35. Describe an activity to show that thermosetting plastic is a poor conductor of electricity.



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36. Avoid plastics as far as possible'. Comment on this advice.



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37. Manufacturing synthetic fibres is actually helping conservation of forests'. Comment.



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38. Match the terms of column A correctly with the phrases given in the column B.

Column A	Column B
(1) Polyester	(a) Prepared by using wood pulp
(2) Teflon	(b) A fire-proof plastic used to make clothes of firemen
(3) Rayon	(c) used for making parachutes and stockings
(4) Nylon	(d) a plastic on which oil and water do not stick.
(5) Melamine	(e) biodegradable materials
(6) Cotton and jute	(f) fabrics do not wrinkle easily.



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39. Categories the following materials into 'can be recycled' and 'cannot be recycled'

Telephone instruments, plastic toys, cooker handles, carry bags, ball point pens, plastic bowls, plastic covering an electric wire, plastic chairs, electrical switches.



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40. Explain the difference between thermoplastic and thermosetting plastics.



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41. Arrange the following fibres in the order of increasing strength (keeping the fibre of least strength first)

Nylon, Cotton, Wool, Polyester, Silk



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42. Which of the following are polyesters?

Cotton, Terylene, Nylon, PET, Rayon, Acrylic



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43. Which plastic is used :

for making coverings from protection from rain.



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44. Which plastic is used :

for making rain coats, water pipes, pipe fittings and body of the automobile batteries.



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45. Which plastic is used :

for coating in cooking utensils and non-stick pans.



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46. Which plastic is used :

for making electric switches and handles of cooking utensils



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47. Which plastic is used :

for making bottles, jars and thin films.



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48. Which plastic is used :

for making uniforms of fire-men fire resistant.



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49. Answer true or false.

Plastics are good conductors of heat and electricity.



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50. Answer true or false.

Plastics are resistant to corrosion.



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51. Answer true or false.

Plastics are heavier than metals.



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52. Answer true or false.

Synthetic fibres are made by using petrochemical as raw materials.



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53. Indicate whether the following statements are True or False. Also write the false statements in their correct form.

Most of the plastics are biodegradable.



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Question Bank 14 Multiple Choice Questions

1. The fibre that burns completely leaving no residue

A. Cotton

B. Acrylic

C. Polyester

D. Polythene

Answer: a



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2. Why is it not advisable to wear synthetic clothes while bursting fire crackers?

(i) All synthetic fibres are prepared by using

raw materials of petroleum origin.

(ii) Synthetic fibres catch fire easily.

(iii) On heating synthetic fibres melt and stick to the body of the person wearing it

A. (i) only

B. (ii) only

C. (i) and (iii)

D. (ii) and (iii)

Answer: d



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3. Petroleum is the main source of

A. Silk

B. Plastic

C. Cotton

D. Jute

Answer: b



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4. An example of thermosetting plastic which is also a poor conductor of electricity is

A. Polythene

B. Bakelite

C. Polyester

D. PVC

Answer: b



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5. Which of the following products can't be decomposed easily?

A. Acrylic

B. Plastic

C. Polythene

D. All of the above

Answer: d



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6. Match the phrases of Column A correctly with the terms given in Column B and select the correct match from the codes given below:

Column A	Column B
(a) Prepared by using wood pulp	(1) Polyester
(b) Used for making parachutes and stockings	(2) Teflon
(c) Used to make non-stick cookwares	(3) Rayon
(d) Fabrics do not wrinkle easily	(4) Nylon

A. $\begin{matrix} a & b & c & d \\ 1 & 3 & 4 & 2 \end{matrix}$

B. $\begin{matrix} a & b & c & d \\ 3 & 4 & 2 & 1 \end{matrix}$

C. $\begin{matrix} a & b & c & d \\ 2 & 2 & 1 & 4 \end{matrix}$

D. $\begin{matrix} a & b & c & d \\ 3 & 2 & 4 & 1 \end{matrix}$

Answer: B



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7. Which of the following are biodegradable substances?

A. cloth

B. thermosetting plastics

C. thermoplastics

D. PVC Pipes

Answer: a



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8. Which of the following statements is true about PVC (polyvinyl chloride) and polythene?

- A. They are thermoplastic.
- B. They are thermosetting plastics.
- C. They are examples of natural substances.
- D. They are natural fibres.

Answer: a



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9. PP (Polypropylene) is used for making

- A. disposable cups
- B. liquid detergents
- C. grocery bags
- D. making electric switches

Answer: a



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10. Use of plastic bags should be avoided because

- A. Plastic is non-biodegradable
- B. Plastic emits toxic gases on burning
- C. Both (a) and (b)
- D. None of these

Answer: c



11. A housewife should not wear polyester clothes while cooking in the kitchen because

- A. polyester clothes absorb sweat easily
- B. they catch fire easily
- C. they are uncomfortable to wear
- D. they don't look nice

Answer: b



12. Which of the following are made using chemical compounds of petroleum origin (petrochemicals)

A. Silk

B. Cotton

C. Rayon

D. Nylon, polyester and acrylic

Answer: d



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13. Draw a concept map using the following words:

Fibres, Natural Fibres, Synthetic Fibres, Polymers, Monomers, Rayon, Nylon, Polyester, Acrylic plastics, Thermoplastics, Thermosetting plastics, Polythene, PVC, Bakelite, Melamine can be recycled, Cannot be recycled.



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Self Assessment Sheet 14

1. Answer the following questions :

Name the plastic used for making non-stick pans. State reason for its use.



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2. Answer the following questions :

Classify into thermoset and thermoplastic

Melamine



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3. Answer the following questions :

Classify into thermoset and thermoplastic

Thermocot



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4. Answer the following questions :

What is a polymer?



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5. Answer the following questions :

Name the plastic whose sheets are used for packing liquids.



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6. Answer the following questions :

Why is teflon used as a tape for sealing purpose?



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7. Answer the following questions :

A person has to make electric switches and plugs. Out of Teflon, PVC and bakelite, which plastic should he use and why?



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8. Answer the following questions :

Why is rayon also known as artificial silk? Give its two uses.



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9. Answer the following questions :

Name two natural polymers. Write down four advantages polythene has over natural materials because of which it is widely used.



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10. Answer the following questions :

What is PET? Why is it being increasingly used for making bottles, jars and utensils?



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11. Answer the following questions :

Why are frying pan handles made of thermosetting plastics and not thermoplastics?



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12. Answer true or false :

The articles made of thermoplastics can be recycled whereas the articles made of thermosetting plastics cannot be recycled.



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13. Answer true or false :

Polythene and polyvinyl chloride (PVC) are thermosetting plastics.



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14. Answer true or false :

Plastics are eco-friendly



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15. Answer true or false :

Plastics are generally good conductors of electricity.



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16. Answer true or false :

Although made from wood pulp, Rayon is not a natural fibre. It is a man-made fibre.



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17. Fill in the blanks by suitable words to make correct statements:

Fibres obtained from plants and animals are called ___ fibres.



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18. Fill in the blanks by suitable words to make correct statements:

_____ is an artificial fibre resembling silk.



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19. Fill in the blanks by suitable words to make correct statements:

Plastics are _____ in water and therefore are used in making buckets.



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20. Fill in the blanks by suitable words to make correct statements:

Plastics which get deformed easily on heating and can be bent easily are known as _____ .



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21. Fill in the blanks by suitable words to make correct statements:

When burnt, _____ release toxic gases into the air causing air pollution.



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22. Fill in the blanks by suitable words to make correct statements:

Substances which cannot be decomposed by micro-organisms are called _____ substances.



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23. Match correctly

Column I	Column II
(a) Thermoplastics	(1) Bio-degradable
(b) Thermosetting plastics	(2) High density polythene. Used for non corrosive containers.
(c) Animals, plants	(3) used as a substitute for wool.
(d) Plastics	(4) Non-biodegradable
(e) Acrylic	(5) heavily cross-linked polymers
(f) HDPE	(6) Linearly linked polymers



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24. Ropes made of nylon and polyester are commonly used in cranes and elevators because

A. Nylon is inflammable

B. It is a good conductor of heat and electricity

C. It is very strong, fairly elastic and light weight

D. It is heat resistant

Answer: c



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25. A common form of polyester is

A. Nylon

B. Rayon

C. PET

D. Acrylic

Answer: c



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26. It is advised to wear clothes in summer made of

A. Silk

B. wool

C. nylon

D. cotton

Answer: d



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27. Polywool is made by blending polyester and

A. acrylic

B. rayon

C. cotton

D. wool

Answer: d



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28. The plastic that is used in making uniforms of firemen is:

A. Teflon

B. Melamine

C. Bakelite

D. Polythene

Answer: b



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29. Which of the following is a true statement?

A. Plastic is soluble in water

B. Plastic is not a polymer

C. Rayon is made from cellulose

D. All plastics are fire resistant

Answer: c



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