



CHEMISTRY

BOOKS - MTG IIT JEE FOUNDATION

FOOTSTEPS TOWARDS (JEE MAIN)

Section A Multiple Choice Questions

1. Which of the following statements is correct for the process of burning of a candle?

- A. There is formation of a beautiful cup around the wick of the candle.
- B. Capillary action of the wick draws the liquid wax up the flame where it vaporises
- C. The flame is drawn to a good height by the rising column of hot air.
- D. All of these

Answer: D



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2. Which of the following statements is/are correct?

I. Polythene is a thermosetting plastic.

II. All plastics can be easily softened on heating III. Plastics are non reactive towards air and water.

IV. Plastics are good conductors of heat and electricity.

A. I and II only

B. III only

C. III and IV only

D. I, II, III and IV

Answer: B



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3. Which of the following properties make mercury an ideal liquid for making thermometers?

A. It is easily visible.

B. it expands on heating

C. Its boiling point is high.

D. All of these

Answer: D



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4. Arrange the following liquids in increasing order of boiling points.

A. Kerosene It Fuel oil It Naphtha It Petrol

B. Fuel oil It Naphtha It Petrol It Kerosene

C. Naphtha It Petrol It Kerosene ItFuel oil

D. Petrol It Naphtha Kerosene ItFuel oil

Answer: D



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5. Substance X is used extensively for small scale production of metals. It is also used as a deodorant and disinfectant and is one of the constituent of gun powder. Identify X.

A. Coke

B. Sugar charcoal

C. Bone charcoal

D. Wood charcoal

Answer: D



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6. Match the column I with column II and select the correct option.

Column I		Column II	
P.	Chemical name of cotton	(i)	Thermosetting
Q.	Chains get cross linked on heating	(ii)	Orlon
R.	Another name of acrylic	(iii)	Cellulose
S.	Another name of spandex	(iv)	Lycra

A. P-(iv), Q-(ii), R-(i), S-(iii)

B. P-(iii), Q-(i), R-(ii), S-(iv)

C. P-(iv), Q-(i), R-(iii), S-(ii)

D. P-(iii), Q-(ii), R-(i), S-(iv)

Answer: B



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7. Which of the following represents the incorrect match of the alloy with its uses?

A. German silver - For making ornaments

B. Magnalium - Gears, Castings

C. Bronze - Statues, medals

D. Duralumin - Aircraft bodies

Answer: B



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8. When wood is used as fuel in chullahs, gaps are left in between the logs of wood. This is done to

- A. movement of air
- B. less consumption of wood
- C. to control temperature
- D. none of the above.

Answer: A



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9. Which of the following is true for thermosetting polymers?

A. Cross linked polymers

B. Harden irreversibly on heating

C. Molecular structure changes on heating

D. All of these

Answer: D



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10. Which of the following represents an incorrect match?

A. Sulphur dioxide - Acidic oxide

B. Mercury - Liquid non-metal

C. Iron oxide - Basic oxide

D. Noble metal - Platinum

Answer: B



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11. The formation of soot particles during burning of a candle is due to

A. burning of hydrogen

B. unburnt carbon particles left behind because of insufficient oxygen for burning

C. burning of hydrocarbons

D. all of these.

Answer: B

12. Which of the following correctly represents the tensile strength of given fibres?

A. Silk > Cotton > Nylon > Wool

B. Wool > Silk > Cotton > Nylon

C. Nylon > Silk > Cotton > Wool

D. Nylon > Wool > Cotton > Silk

Answer: C

13. Iron is galvanised when it is dipped in

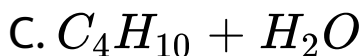
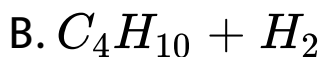
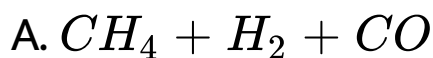
- A. molten zinc
- B. molten copper
- C. molten carbon
- D. molten gold.

Answer: A



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14. Destructive distillation of coal produces coal gas which is mixture of



Answer: A



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15. Identify the correct statements.

(i) Carbon dioxide is used to extinguish fires involving oil and petrol.

(ii) Carbon dioxide used for extinguishing fires caused by oil.

(iii) Fires caused by short-circuit should not be put off by sprinkling water on it.

(iv) Water is not the best extinguisher for fires involving petrol and kerosene.

A. (i), (ii) and (iii)

B. (ii) and (iii)

C. (ii) and (iv)

D. All of these

Answer: D



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16. The main component of biogas is

A. methane

B. benzene

C. ethylene

D. ethane.

Answer: A



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17. A metal M does not liberate hydrogen from acids but reacts with oxygen Q 5 to give a black colour product. Identify M and black coloured product and also explain the reaction of M with oxygen.

A. silver and silver sulphide

B. copper and copper oxide

C. iron and iron oxide

D. aluminium and aluminium oxide.

Answer: B



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18. The ratio of carbon monoxide and hydrogen in water gas is

A. 2:1

B. 1:2

C. 1:1

D. 2:3

Answer: C



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19. The conditions necessary for combustion are

A. presence of combustible substance

B. presence of supporter of combustion

C. attainment of ignition temperature

D. all of these.

Answer: D



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20. PET is a familiar form of

A. plastic

B. polyester

C. acrylic

D. rayon

Answer: B



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Section B Numeric Value Type Questions

1. If 10 kg of a fuel X produces 1,60,000 J of heat on complete combustion then, the calorific value of X in Kj/kg is _____.



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2. The number of elements which are solid non-metals among the following is _____ .

Carbon, nitrogen, chlorine, helium, phosphorus, sulphur and iodine



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3. Number of thermosetting polymers out of the following is _____ .

Bakelite, polythene, polystyrene, melamine,
PVC, urea-formaldehyde, teflon



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4. A few substances are given below:

Graphite lamp black, coke, coal, fullerene,
sugar charcoal, wood charcoal, diamond

The total number of crystalline forms of
carbon among the given substances is

_____ .



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5. The total number of exhaustible sources among the following is _____ .

Sunlight air, petroleum, coal, natural gas, wind, minerals, forests.



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6. The total number of biodegradable materials among the following is _____ .

metallic can, peels of orange, aluminium wire, newspaper cuttings, tyre, plastic ball



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7. Number of metals out of the following is _____ .

pencil lead, aluminium foil, silver coin, coal piece, iron nail, sulphur



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8. Number of materials out of the following, which are poor conductor of electricity is

_____ .

Wood, distilled water, iron nail, aluminium foil,
eraser, silver ring, coal piece, comb, coin,
tapwater



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9. Number of components of fractional
distillation of petroleum is _____ .

Diesel, coke, paraffin wax, kerosene, coal gas,
coal tar, petroleum gas, gasoline, CNG



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10. Number of materials which on burning form a flame is _____ .

Wax, camphor, LPG, magnesium ribbon, candle, kerosene oil, charcoal



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