PHYSICS

BOOKS - NAVNEET SCIENCE (HINGLISH)

MULTIPLE CHOICE QUESTIONS

Gravitation

1. The gravitational force between two particles separated by a distance r varies as

.....

A. $\frac{1}{r}$

B. r

C. r^2

D. $\frac{1}{r^2}$

Answer: D

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2. In the usual notation, the acceleration due to gravity at a height h from the surface of the earth is .....

A. $g = \frac{GM}{R+h}$

B. $g = \frac{GM}{\sqrt{R+h}}$

C. $g = \frac{GM}{(R+h)^2}$

D. $g = GM(R+h)^2$

Answer: C

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3. If the weight of the body on the earth's surface is 60 N, its weight on the moon's surface will be about .....

A. 360 N

B. 36 N

C. 6 N

D. 10 N

Answer: D

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4. The weight of a body on the earth's surface = ...

A. $\frac{GMm}{R}$

B. $\frac{GMm}{R^2}$

C. $GMmR^2$

D. $\frac{GM}{R^2}$

Answer: B

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5. What will be the weight of a person on the earth, who weights 9 N on the moon ?

A. 3 N

B. 15 N

C. 45 N

D. 54 N

Answer: D

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Periodic Classification Of Elements

1. The number of electrons in the outerost shell of alkali metals is ..... .

A. 1

B. 2

C. 3

D. 7

Answer: A

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2. Alkaline earth metals have valency 2. This means that their position in the modern periodic table is in .....

A. Group 2

B. Group 16

C. Period 2

D. d-block

Answer: A

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3. Molecular formula of the chloride of an element X is XCl. This compound is a solid having high melting point. Which of the following elements be present in the same group as X.

A. Na

B. Mg

C. Al

D. Si

Answer: A

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4. In which block of the modern periodic table are the nonmetals found ?

A. s-block

B. p-block

C. d-block

D. f-block

Answer: B

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5. Which of the following traids does not follow Dobereiner's law of traids?

A. Li, Na, K

B. Ca, Sr, Ba

C. Be, Mg, Ca

D. Cu, Ag, Au

Answer: D

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6. During Newland's time ..... elements were known.

A. 56

B. 65

C. 63

D. 36

Answer: A

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7. The law of octaves was given by .....

A. Dobereiner

B. Newlands

C. Mendeleev

D. Moseley

Answer: B

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8. Eka-boron was subsequently named as .....

A. gallium

B. germanium

C. scandium

D. molybdenus

Answer: C

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9. Halogens belong to group ..... In the modern periodic table.

A. 15

B. 16

C. 17

D. 18

Answer: C

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10. Noble gases belong to group ..... in the modern periodic table.

A. 15

B. 16

C. 17

D. 18

Answer: D

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11. The halogen which is liquid at room temperature is .....

A. Fluorine

B. astetine

C. bromine

D. iodine

Answer: C

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Chemical Reactions And Equations

1. The reaction of iron nail with copper sulphate solution is ..... Reaction.

A. double displacement

B. displacement

C. combination

D. decomposition

Answer: B

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2. Reddish brown deposit formed on iron nails kept in a solution of copper sulphate is :

A. Cu_2O

B. Cu

C. CuO

D. CuS

Answer: B

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3. The reaction

$$CuSO_{4(ag)} + Zn_{(s)} \rightarrow ZnSO_{4(aq)} + Cu_{(s)}$$

is a ..... Reaction.

A. displacement

B. double displacement

C. decomposition

D. combination

Answer: A

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4. ..... Is a combination reaction

A. $Cu + H_2SO_4 \rightarrow CuSO_4 + H_2$

B. $H_2 + Cl_2 \rightarrow 2HCl$

C. $2HgO \xrightarrow{\Delta} 2Hg + O_2$

D. $CaCO_3 \xrightarrow{\Delta} CaO + CO_2$

Answer: B

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5. ..... Is a decompositon reaction.

A. $CaCO_3 \xrightarrow{\Delta} CaO + CO_2$

B. $H_2O + CO_2 \rightarrow H_2CO_3$

C. $CaS + 2HCl \rightarrow CaCl_2 + H_2S$

D. $2H_2 + O_2 \rightarrow 2H_2O$

Answer: A

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6. In a chemical equations, the .....are written on the left hand side.

A. products

B. reactants

C. catalysts

D. elements

Answer: B

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7. The Δ sign written above the arrow indicates .....of the reaction

A. reactant

B. product

C. heat

D. direction of the reaction

Answer: C

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8. The reaction

$$KNO_{3(s)} + H_2O_{(I)} + \text{Heat} \rightarrow KNO_{3(aq)}$$

is a/an ..... Reaction.

A. exothermic

B. endothermic

C. oxidation

D. reduction

Answer: B

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9. The reaction $NaOH_{(s)} + H_2O_{(I)} \rightarrow NaOH_{(aq)}$ is a/an ..... reaction.

A. exothermic

B. endothermic

C. oxidation

D. reduction

Answer: A

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10. Carbon dioxide

A. turns lime water milky

B. is odourless

C. is colour less

D. All the three (a) , (b) and (c) are correct

Answer: D

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11. In a double displacement reaction .....

A. ions remain at rest

B. ions get liberated

C. ions are exchanged

D. ions are not created

Answer: C

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Effects Of Electric Current

1. The device used for measuring a current is called .....

A. a voltmeter

B. an ammeter

C. a galvanometer

D. a generator

Answer: B

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2. At the time of short circuit, the current in the circuit .....

A. increases

B. decreases

C. remains the same

D. increases in steps

Answer: A

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3. The direction of the magnetic field around a straight conductor carrying current is given by ..... .

A. the right hand thumb rule

B. Fleming's left hand rule

C. Fleming's right hand rule

D. none of these

Answer: A

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4. The resistance of a wire is 100 Ω . If it carries a current of 1 A for 10 seconds, the heat prouduced will be ..... .

A. 1000 J

B. 10 J

C. 0.1 J

D. 10000 J

Answer: A

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5. If 220 V potential difference is appled across an electric bulb, a current of 0.45 A flows in the bulb. What must be the power of the bulb ?

A. 99 W

B. 70 W

C. 45 W

D. 22 W

Answer: A

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6. Electromagnetic induction means .....

A. charging of an electric conductor

B. production of magnetic field due to a current flowing through a coil.

C. generation fo a current in a coil due to relative motion between the coil and the magnet.

D. motion of the coil around the axle in an electric motor.

Answer: C

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7. Which of the statement given below correctly describes the magnetic field near a long , straight current -carrying conductor ?

A. The magnetic lines of force are in a plane, perpendicular to the conductor in the form of straight lines.

B. The magnetic lines of force are parallel to the conductor on all the sides of condutor .

C. The magnetic lines of force are perpendicular to the conductor going radiadly outward.

D. The magnetic lines of force are in concentric circles with the wire as the centre , in a plane perpendicular to the conductor .

Answer: D

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Heat

1. .....is used to study the anomalous behaviour of water.

A. Calorimeter

B. Joule's apparatus

C. Hope's apparatus

D. Thermos flask

Answer: C

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2. When water boils and is converted into steam, then _____ .

A. heat is taken in and temperature remains constant

B. heat is taken in and temperature rises

C. heat is given out and temperature lowers

D. heat is given out and temperature remains constant

Answer: A

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3. When steam condenses into water its

A. heat is absorbed and temperature incresaes

B. heat is absorbed and temperature remains the same

C. heat is given out and temperature decreases

D. heat is given out and temperature remains the same

Answer: D

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4. Ice/water is a substance that .....

A. expands on melting and contracts on freezing

B. contracts on melting and does not undergo change in volume on freezing

C. contracts on melting and expands on freezing

D. does not undergo change in volume on melting or freezing

Answer: C

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5. Heat absorbed when 1g of ice melts at $0^\circ C$ to form 1g of water at the same temperature is .....cal.

A. 80

B. 800

C. 540

D. 54

Answer: A

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6. The specific latent heat of vaporization of water is .....

A. 540 cal/g

B. 800 cal/g

C. 80 cal/g

D. 54 cal/g

Answer: A

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7. The specific latent heat of fusion of ice is .....

A. 540 cal/g

B. 80 cal/g

C. 800 cal/g

D. 4 cal/g

Answer: B

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8. If the temperature of water is decreased from $4^{\circ}C$ to $0^{\circ}C$, then its.....

A. volume deceases and density increases

B. volume increases and density decreases

C. volume and density decrease

D. volume and density increase

Answer: B

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9. At $4^{\circ}C$, the density of water is

A. 10 g/cm^3

B. $4g/cm^3$

C. $4 \times 10^3 kg/m^3$

D. $1 \times 10^3 kg/m^3$

Answer: D

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10. The density of water is maximum at .....

A. $0^\circ C$

B. $-4^\circ C$

C. $100^\circ C$

D. $4^\circ C$

Answer: D

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11. . . . . heat is needed to raise the temperature of 1 kg of water from $14.5^\circ C$ to $15.5^\circ C$.

A. 4180 J

B. $10^3 J$

C. 1 cal

D. 4180 cal

Answer: A

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12. . . . . . heat is needed to convert 1g of water at $0^\circ C$ and at a pressure of one

atmosphere into 1g of steam under the same conditions.

A. 80 cal

B. 540 cal

C. 89 J

D. 540 J

Answer: B

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13. Water expands on reducing its temperature below . . .. $^{\circ} C$.

A. 0

B. 4

C. 8

D. 12

Answer: B

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Refraction Of Light

1. The change in the direction of propagation of light when it passes obliquely from one transparent medium to another is called . . ..

A. dispersion

B. scattering

C. refraction

D. reflection

Answer: C

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2. When a ray of light travels from air to glass slab and strikes the surface of separation at 90°, then it

A. bends towards the normal

B. bends away from the normal

C. passes unbent

D. passes in zigzag way

Answer: C

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3. If a ray of light passes from a denser medium to a rarer medium in a straight line,the angle of incidence must be . . . . . .

A. 0°

B. 30°

C. 60°

D. 90°

Answer: A

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4. A ray of light strikes a glass slab at an angle of 50° with the normal to the surface of the slab. What is the angle of incidence?

A. 50°

B. 25°

C. 40°

D. 100°

Answer: A

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5. If a ray of light propagating in air strikes a glass slab at an angle of 60° with the surface of the slab, the angle of refraction is .....

A. more than 30°

B. less than 30°

C. 60°

D. 30°

Answer: B

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6. A ray of light gets deviated when it passes obliquely from one medium to another medium because . . ..

A. the colour of light changes

B. the frequency of light changes

C. the speed of light changes

D. the intensity of light changes

Answer: C

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7. Out of the following ..... Has the highest absolute refractive index.

A. fused quartz

B. diamond

C. crown glass

D. ruby

Answer: B

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8. The absolute refractive index . . ..

A. is expressed in dioptre

B. is expressed in m/s

C. of air is about $\frac{4}{3}$

D. has no unit

Answer: D

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9. The speed of light in a transparent medium having absolute refraction index 1.25 is ..... [Speed of light in vacuum $\approx 3 \times 10^8 m/s$]

A. 24×10^8

B. 2.4×10^8

C. 1.75×10^8

D. 1.5×10^8

Answer: B

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10. ..... light is deviated the maximum in the spectrum of white light obtained with a glass prism.

A. Red

B. Yellow

C. Violet

D. Blue

Answer: C

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11. . . .. light is deviated the least in the spectrum of white light obtained with a glass prism.

A. Red

B. Yellow

C. Violet

D. Blue

Answer: A

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12. A ray of light makes an angle of 50° with the surface S_1 of the glass slab. Its angle of incidence will be ____

A. 50°

B. 40°

C. 140°

D. 10°

Answer: B

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13. A glass slab is placed in the path of a beam of convergent light. The point of convergence of light

A. moves away from the slab

B. moves towards the slab

C. remains at the same point

D. undergoes a lateral shift

Answer: A

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14. What is the reason for the twinkling of stars ?

A. Explosions occuring in stars from time to time

B. Absorption of light in the earth's atmosphere

C. Motion of stars

D. Changing refractive index of the atmospheric gases.

Answer: D

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15. We can see the Sun even when it is little below the horizon because of

A. reflection of light

B. refraction of light

C. dispersion of light

D. absorption of light

Answer: B

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Lenses

1. Air bubble in water behaves as

A. like a flat plate

B. like a concave lens

C. like a convex lens

D. like a concave mirror

Answer: B

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2. The lens formula is

A. $\frac{1}{v}+\frac{1}{u}=\frac{1}{f}$

B. $\frac{1}{v}-\frac{1}{u}=\frac{1}{f}$

C. $\frac{1}{v}+\frac{1}{u}=\frac{2}{f}$

D. $\frac{1}{u}-\frac{1}{v}=\frac{1}{f}$

Answer: B

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3. The image formed by a concave lens is always ..... .

A. virtual and erect

B. real and erect

C. virtual and inverted

D. real and inverted.

Answer: A

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4. A convex lens forms a virtual image of an object placed ..... .

A. at infinity

B. at a distance 2f from the lens

C. at a distance f from the lens

D. between the principal focus and the optical centre of the lens

Answer: D

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5. When an object is placed at $2F_1$ of a convex lens, its image is formed ..... .

A. at F_1

B. at $2F_2$

C. beyond $2F_2$

D. on the some side as the object

Answer: B

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6. To obtain an image of the same size as that of an object with the help of a convex lens, the object should be placed ..... .

A. at infinity

B. beyond F_1

C. between F_1 and $2F_1$

D. at $2F_1$

Answer: D

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7. When an object is placed between O and F_1 in front of a convex lens, the image formed

A. enlarged and erect

B. diminished and erect

C. real and enlarged

D. diminished and inverted

Answer: A

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8. When an object is placed at any finite distance from a concave lens, the image is formed..... .

A. between F_1 and $2F_1$

B. beyond $2F_1$

C. at F_1

D. between F_1 and O

Answer: D

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Metallurgy

1. ..... Is a metal.

A. Mg

B. S

C. P

D. Br

Answer: A

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2. .....is a nonmetal

A. Au

B. Hg

C. Br

D. Cu

Answer: C

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3. .....is a metalloid.

A. Aluminium

B. Antimony

C. Zinc

D. Mercury

Answer: B

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4. Metalloids have properties of ..... .

A. metals

B. nonmetals

C. both metals and nonmetals

D. neither metals nor nonmetals

Answer: A

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5. ..... is a good conductor of electricity .

A. Bromine

B. Iodine

C. Graphite

D. Sulphur

Answer: A

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6. .....is a metal which is in liquid form at ordinary temperature and pressure.

A. Magnesium

B. Sodium

C. Scandium

D. Mercury

Answer: C

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7. .....is an amphotric oxide.

A. Na_2O

B. MgO

C. ZnO

D. SO_2

Answer: C

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8. .....is an acidic oxide.

A. Na_2O

B. CO_2

C. FeO_3

D. H_2O

Answer: B

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9. .....is a basic oxide

A. CO_2

B. K_2O

C. SO_2

D. Al_2O_3

Answer: B

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10. What is a redox reaction ?

A. Oxidation takes place

B. reduction takes place

C. neither oxidation nor reduction takes place

D. oxidation and reduction take place simuttaneouly

Answer: D

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11. Bronze is an alloy of:

A. copper and tin

B. copper and zinc

C. Copper and iron

D. iron and nickel

Answer: D

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12. An alloy prepared from iron, nickel and chromium is known as .....

A. brass

B. bronze

C. stainless steel

D. amalgam

Answer:

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13. .....has an oxide which is soluble is sodium hydroxide

A. Calcium

B. Magnesium

C. Iron

D. Zinc

Answer: D

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14. ..... prevents the rusting of iron.

A. Copper

B. Zinc

C. Aluminium

D. Silver

Answer: A

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15. ..... is obtained by the reduction of its oxide by carbon.

A. Zinc

B. Aluminium

C. Sodium

D. Potassium

Answer: A

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16. ..... Is used as an anode during the electrolytic reduction of bauxite.

A. Sulphur

B. Graphite

C. Platinum

D. Aluminium

Answer: B

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17. Silver gets correded due to ..... In air .

A. Oxygen

B. hydrogen sulphide

C. carbon dioxide

D. nitrogen

Answer: B

View Text Solution

18. .....is the hardest substance and has the highest melting and boiling points.

A. Iodine

B. Sulphur

C. Diamond

D. Phosphorus

Answer: C

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19. Jewellery articles are gold plated.....

A. to prevent corrosion

B. to prevent rusting of the base metal

C. to make articles attractive

D. all of these

Answer: D

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20. Iron is ..... .

A. more reactive than zinc

B. more reactive than aluminium

C. less reactive than copper

D. less reactive than aluminium

Answer: D

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Carbon Compounds

1. The property of self combination of the atoms of the same element to form long chains is known as :

A. catenation

B. isomerism

C. dehydration

D. polymerization

Answer: A

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2. The molecular weight of two adjacent members in homologous series of an alkane differ by ..... units.

A. 16

B. 20

C. 14

D. 12

Answer: C

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3. Due to .....,vegetable oil is converted into vanaspati ghee.

A. hydrogenation

B. chlorination

C. dehydration

D. polymerization

Answer: C

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4. .....is used to prepare carbon black.

A. Methane

B. Ethane

C. Propane

D. Butane

Answer: A

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5. .....is the general formula of alkene

A. C_nH_{2n}

B. C_nH_{2n+2}

C. C_nH_{2n+2}

D. C_nH_{n-2}

Answer: A

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6. The reaction of methane with chlorine in the presence of sunlight is called.....

A. pyrolysis

B. an elimination reaction

C. a substitution reaction

D. an addition reaction

Answer: C

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7. The general formula for alkynes is ..... .

A. C_nH_{2n}

B. C_nH_{2n+2}

C. C_nH_{2n-2}

D. C_nH_{2n-1}

Answer: C

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8. Ethylene has ..... Bond between two carbon atoms.

A. a single

B. a double

C. a triple

D. an ionic

Answer: B

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9. The organic compounds having double or triple bonds in them are termed as .....

A. saturated compounds

B. stable compounds

C. volatile compounds

D. unsaturated compounds

Answer: D

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10. C_7H_{16} is ..... .

A. hexane

B. octane

C. methane

D. heptane

Answer: D

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11. $-C-OH$ is called.....

A. carboxylic acid group

B. aldehyde group

C. ketonic group

D. alcohol group

Answer: A

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12. The possible isomers for C_5H_{12} are .....

A. 2

B. 4

C. 1

D. 3

Answer: D

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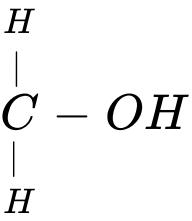
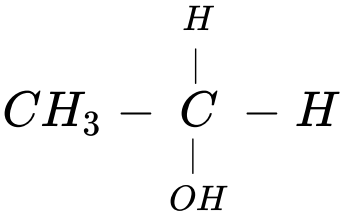
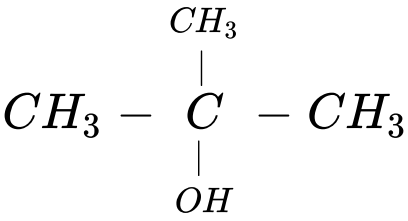
13. ..... Contains alcoholic functional group.

A. 

B. 

C. 

D. all of these

Answer: D

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14. Oxygen molecule has ..... bond between two oxygen atoms .

A. a double

B. a single

C. a triple

D. an ionic

Answer: A

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15. Ethanoic acid has a ..... odour.

A. rotten eggs

B. pungent

C. mild

D. vinegar-like

Answer: D

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16. The molecular formula of acetic acid (ethanoic acid) is .....

A. HCOOH

B. CH_3COOH

C. C_2H_5COOH

D. C_3H_7COOH

Answer: B

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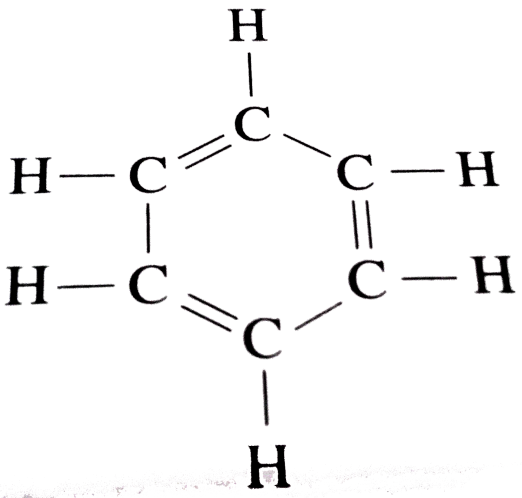
17. Name the carbon compound of the following structure.



A. Camphor

B. Benzene

C. Starch

D. Glucose

Answer: B

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Space Missions

1. Which one of the following is a Low Earth Orbit (LEO) satellite ?

A. Navigational satellite

B. Geostationary satellite

C. International Space Station

D. All of the above

Answer: C

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2. The period of revolution of a geostationary satellite is .....hours.

A. 10

B. 6

C. 12

D. 24

Answer: D

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Assignment

1. Zinc reacts with HCl. The reaction is a ..... reaction.

A. Combination

B. decomposition

C. displacement

D. double

Answer:

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2. Intensity of magnetic field is expressed in .....

A. ampere

B. volt

C. coulomb

D. oersted

Answer:

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3. If the speed of light in a medium is 2.5×10^8 m/s , its absolute refraction index $\cong$ .....

A. $\frac{2.5}{3}$

B. 1.1

C. 1.3

D. 1.2

Answer:

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4. A solution of $CuSO_4$ in water is ..... In colour.

A. pink

B. blue

C. colourless

D. green

Answer:

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5. When acetic acid reacts with sodium metal ..... gas is formed.

A. oxygen

B. hydrogen

C. chlorine

D. nitrogen

Answer:

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