



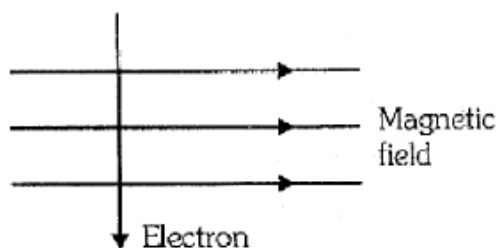
SCHOLARSHIP EXAMINATION CLASS 10TH PHYSICS PAPER

TIME : TOTAL 2 HRS.

TOTAL MARKS : 15

❖ **MULTIPLE CHOICE QUESTIONS:** *Tick only one correct option.*

Q.1 An electron enters in a magnetic field at right angles to it as shown in figure. The direction of force action on the electron will be

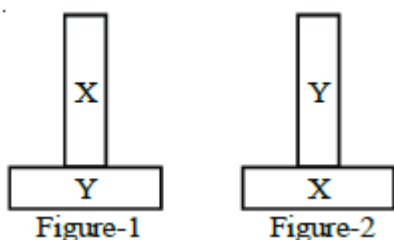


- (A) To the right (B) To the left (C) Out of the page (D) Into the page

Q.2 The length of a bar magnet is $2l$, the distance between magnetic poles will be

- (A) between $0 - l$ (B) between $l - 2l$
(C) equal to $2l$ (D) equal to r

Q.3 Two identical metal bars X and Y are positioned in the two diagrams shown below



If there is a strong attraction in figure-1 and weak attraction in figure-2. What are the possible materials X and Y ?

- (A) Steel bar, iron bar (B) Steel bar, bar magnet
(C) Bar magnet, steel bar (D) Bar magnet, bar magnet

Q.4 A charged particle having charge $3.2 \times 10^{-19} \text{ C}$ is traveling with a speed of $1.0 \times 10^6 \text{ ms}^{-1}$. When it passes perpendicular to the magnetic field 0.4 T , then the force experienced by it is :

- (A) $12.8 \times 10^{-13} \text{ N}$ (B) $1.28 \times 10^{-13} \text{ N}$
(C) $19.2 \times 10^{-15} \text{ N}$ (D) $1.92 \times 10^{-15} \text{ N}$

Q.5 Two identical plano-convex lenses can be combined in three ways, as shown. The ratio of the focal lengths of these combinations will be:



(i)



(ii)



(iii)

(A) 2 : 2 : 1

(B) 1 : 1 : 1

(C) 1 : 2 : 2

(D) 2 : 1 : 1

Q.6 An object of height 4 cm is placed at a distance of 15 cm in front of a concave lens of power, -10 diopters. Find the size of the image :

(A) 1.6 cm

(B) 1.2 cm

(C) 1.4 cm

(D) 0.8 cm

Q.7 A convex lens is in contact with concave lens. The magnitude of the ratio of their focal length is $3/2$. Their equivalent focal length is 30 cm. What are their individual focal lengths?

(A) - 15, 10

(B) - 10, 15

(C) 75, 50

(D) - 75, 50

Q.8 A person having a myopic eye uses a concave lens of focal length 50 cm. What is its power ?

(A) -3D

(B) -2m^{-1}

(C) 4 D

(D) None of these

Q.9 Find the refractive index of glass with respect of water. The refractive indices of these with respect to air are $3/2$ and $4/3$ respectively.

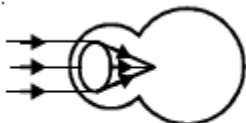
(A) $8/9$

(B) $4/9$

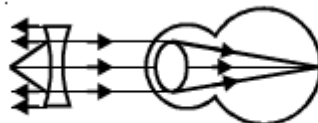
(C) $9/8$

(D) $8/9$

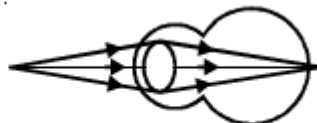
Q.10 Figures (a), (b), (c) and (d) respectively correspond to



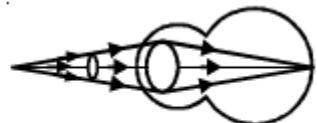
(a)



(b)



(c)



(d)

(A) the short-sighted eye, the correction of long sight, the long-sighted eye and the correction of shortsight

(B) the short-sighted eye, the correction of short sight, the long-sighted eye and the correction of longsight

(C) the long-sighted eye, correction of short-sight, the short-sighted eye and the correction of long-sight

(D) none of these

Q.11 What is the cause of colour blindness?

(A) Image is not formed on retina

(B) Absence of some cone shaped light sensitive cells on retina

(C) Absence of some rod shaped light sensitive cells on retina

(D) A gradual reduction in the amount of light reaching the retina

Q.12 The gravitational force between two bodies is directly proportional to the product of the masses of those bodies and is _____ of the distance between them.

(A) inversely proportional to the square

(B) directly proportional to the square

(C) inversely proportional to the cube

(D) inversely proportional to the square root

Q.13 The value of universal gravitational constant (G) in SI unit is _____.

(A) $6.673 \times 10^{-11} \text{ Nm}^2/\text{kg}^2$

(B) $6.673 \times 10^{11} \text{ Nm}/\text{kg}$

(C) $9.673 \times 10^{-11} \text{ Nm}/\text{kg}$

(D) $9.673 \times 10^{-11} \text{ Nm}^2/\text{kg}^2$

Q.14 The value of gravitational acceleration(g) is _____ at the equator.

- (A) 9.78 m/s^2 (B) 9.832 m/s^2
(C) 9.8 m/s^2 (D) 6.67 m/s^2

Q.15 _____ heat is necessary to raise 1 Kg of water from 14.5°C to 15.5°C .

- (A) 4180 Joul (B) 1 KJoul (C) calorie (D) 4180 calorie
-
-



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SCHOLARSHIP EXAMINATION CLASS 10TH CHEMISTRY PAPER

TIME : TOTAL 2HRS.

TOTAL MARKS : 15

❖ **MULTIPLE CHOICE QUESTIONS : Tick only one correct option.**

Q.16 In fullerene carbon atoms are arranged in mixed

- (A) tetragons and pentagons (B) pentagons and hexagons
(C) Pentagons and heptagons (D) all are correct

Q.17 C-C bond length in diamond and graphite are

- (A) 1.54 Å and 1.42 Å (B) 1.42 Å and 1.54 Å
(C) 1.44 Å and 1.50 Å (D) 1.50 Å and 1.44 Å

Q.18 The allotropes of carbon is/are

- (A) Diamond (B) Graphite (C) Fullerene (D) All of the above

Q.19. Which of the following contain π bond ?

- (A) Pantane (B) Diamond (C) Ethene (D) None of these

Q.20 One important merit of modern periodic table is :

- (A) it explains why elements in the same group have the same chemical properties.
(B) hydrogen has been placed accurately.
(C) isobars have not been placed separately.
(D) it is based on classifying elements according to their atomic masses

Q.21 The noble gases among the following are -

- (A) hydrogen, nitrogen and oxygen. (B) fluorine, chlorine and bromine.
(C) helium, neon and argon. (D) sodium, potassium and calcium.

Q.22 Which of the following pairs of elements does not belong to same group ?

- (A) Cl, Br (B) N, P (C) Mg, Ca (D) Al, Si

Q.23 All the elements of a period have same

- (A) atomic mass (B) atomic number (C) valency (D) number of shells

Q.24 In which of following reactions colour change is occurring ?

- (A) $\text{CuCO}_3 \xrightarrow{\Delta} \text{CuO} + \text{CO}_2$ (B) $\text{CaCO}_3 + 2\text{HCl} \longrightarrow \text{CaCl}_2 + \text{H}_2\text{O} + \text{CO}_2$
(C) Both (A) and (B) (D) $2\text{NaHCO}_3 \xrightarrow{\Delta} \text{Na}_2\text{CO}_3 + \text{H}_2\text{O} + \text{CO}_2$

Q.25 In the equation, $a \text{Al} + b\text{H}_2\text{SO}_4 \longrightarrow c\text{Al}_2(\text{SO}_4)_3 + d\text{H}_2$ a, b, c, d are respectively -

- (A) 2, 3, 1, 1 (B) 2, 3, 1, 3 (C) 2, 3, 2, 3 (D) 2, 2, 3, 3

Q.26 What is the colour change when lead tetroxide on heating is converted into lead monoxide ?
 (A) black to red (B) red to black (C) red to yellow (D) yellow to red

Q.27 Lime water can be used for testing carbon dioxide gas because :
 (A) the gas can readily dissolve in lime water
 (B) a white precipitate is immediately formed on passing gas through lime water
 (C) lime water becomes milky.
 (D) lime water initially becomes milky and the milkiness disappears after sometime on passing the gas in excess.

Q.28 Among the following, the strongest reducing agent is
 (A) Hydrogen (B) Copper (C) Magnesium (D) Nickel

Q.29 Few statements about the metals are given below and matched with the metals. Mark the incorrect match.

- (A) A metal used in joining electric wires -Magnesium.
- (B) A metal whose oxide is amphoteric -Zinc.
- (C) A metal unreactive towards oxygen and dilute acids -Gold.
- (D) A metal extracted by using electrolytic reduction -Aluminium.

Q.30 Which of the following metal becomes liquid in palm :
 (A) Na (B) K (C) Ca (D) Ga



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TOTAL MARKS : 15

A. Anaphase
C. Prophase

(B) Diplotin
(D) Cytokinesis

Q.40 _____ modern remedial technique is used if there is a problem in implantation of embryo in the uterus.

- (A) Surrogacy. (B) Sperm bank
(C) In vitro fertilization. (D) none of these.

Q.41 _____ is a powerful antibiotic against treatment of tuberculosis.

- (A) Penicillin. (B) Rifamycin
(C) Streptomycin. (D) Bacitracin.

Q.42 _____ is the revolutionary event in biotechnology after cloning.

- (A) Human genome project (B) DNA discovery
(C) Stem cell research (D) All the above

Q.43 The disease related with the synthesis of insulin is _____.

- (A) cancer (B) arthritis
(C) heart disease (D) diabetes.

Q.44 Continuous consumption of _____ substances causes carcinogenic especially on the mouth and lung.

- (A) hot (B) sweet
(C) spicy (D) tobacco like

Q.45 Methods like artificial insemination and embryo transplant are mainly used for _____.

- (A) animal husbandry. (B) wild life
(C) pet animals. (D) infertile women.



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