

C



9th Std. — ENGLISH  
**QUESTION BOOKLET**  
**GREATER BOMBAY SCIENCE TEACHERS'**  
**ASSOCIATION**  
**DR. HOMI BHABHA BALVAIDNYANIK COMPETITION**  
**2024–25**



DATE OF EXAMINATION : 30<sup>th</sup> NOVEMBER 2024

TIME : ONE HOUR THIRTY MINUTES

MARKS : 100

Roll No. :

--	--	--	--	--	--	--	--	--	--	--	--

**EXAMPLE**

परीक्षार्थी रोल नं. EXAM ROLL NO.										
9	2	7	0	1	8	3	5	4	9	5
①	①	①	①	●	①	①	①	①	①	①
②	●	②	②	②	②	②	②	②	②	②
③	③	③	③	③	③	●	③	③	③	③
④	④	④	④	④	④	④	④	●	④	④
⑤	⑤	⑤	⑤	⑤	⑤	⑤	●	⑤	⑤	●
⑥	⑥	⑥	⑥	⑥	⑥	⑥	⑥	⑥	⑥	⑥
⑦	⑦	●	⑦	⑦	⑦	⑦	⑦	⑦	⑦	⑦
⑧	⑧	⑧	⑧	⑧	●	⑧	⑧	⑧	⑧	⑧
●	⑨	⑨	⑨	⑨	⑨	⑨	⑨	⑨	●	⑨
⑩	⑩	⑩	●	⑩	⑩	⑩	⑩	⑩	⑩	⑩

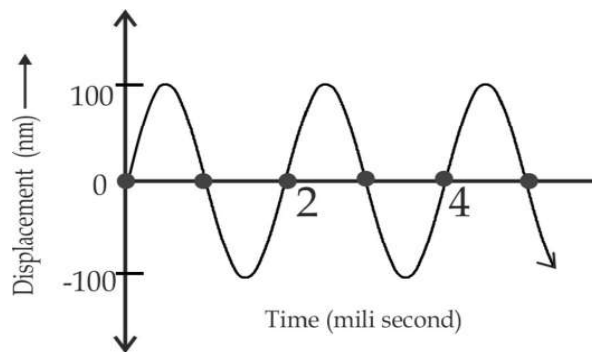
**IMPORTANT**

Please write your **Roll No.** in the row of boxes in column No. of your **ANSWERSHEET** and darken the oval that corresponds to each of the numerals as shown in the example, using **ONLY BLACK BALL POINT PEN.**

**INSTRUCTIONS :**

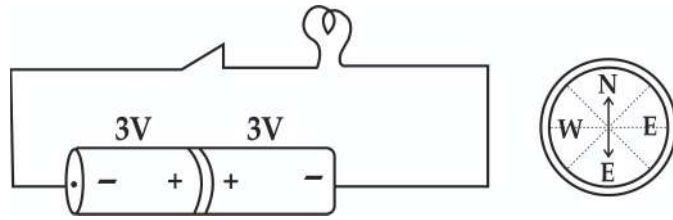
1. Write your Roll No. on this test booklet in the space provided above.
2. This test booklet contains 100 Questions.
3. Each question carries 1 mark.
4. **Check to make sure that you have received the appropriate test booklet for your standard and medium.**

- Which of the following are vector quantities?  
 P) Length                      Q) Density                      R) Displacement                      S) Momentum  
 (A) P, Q, R                      (B) P, R, S                      (C) R, S                      (D) Q, R
- Which of the following factors affect kinetic energy of an object?  
 X) Mass of an object                      Y) Velocity of an object                      Z) Momentum of an object  
 (A) X, Y                      (B) X, Y, Z                      (C) Y, Z                      (D) X, Z
- What will be the power developed by a gun when Soldier fires a bullet of mass 20g at the rate of 1bullet/ sec with a velocity of 1000 m/s ?  
 (A) 100W                      (B) 1000W                      (C) 10kW                      (D) 100kW
- What will be the ratio of displacement to distance covered by an object moving with uniform linear motion?  
 (A) 1:2                      (B) 2:1                      (C) 1:1                      (D) 1:3
- Observe the following graph of sound wave and find the frequency of sound wave.

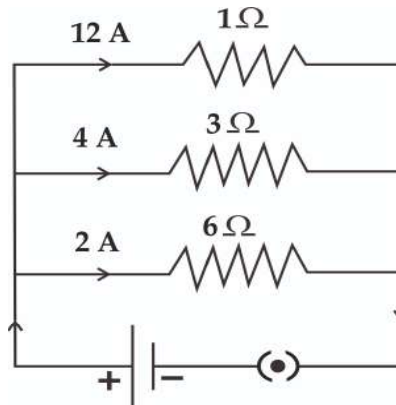


- (A) 50 Hz                      (B) 500 Hz                      (C) 0.02 Hz                      (D) 0.002 Hz
- In computer what does RAM stands for?  
 (A) Read Access Memory                      (B) Random Access Memory  
 (C) Rapidly Accelerated Memory                      (D) Readily Accessible Memory
  - What would be the force required to exerts a pressure of 2000 Pa on a surface area of 10 sq. cm?  
 (A) 2 N                      (B) 20 N                      (C) 200 N                      (D) 20000 N
  - What will be produced of the following, if two objects having zero conductivity of electricity are rubbed on each other?  
 (A) Static electricity                      (B) Current electricity  
 (C) Electromagnetism                      (D) Gravitational Attraction

9. Find the incorrect statement for the given circuit diagram.

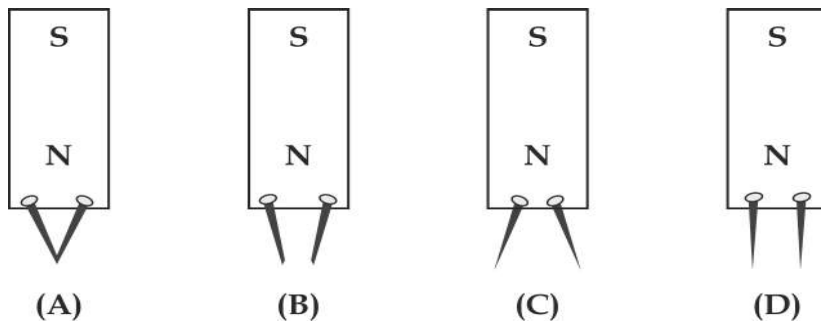


- (A) Battery is not connected properly in the circuit  
 (B) When compass is kept near the circuit, it will not show any deflection  
 (C) Bulb connected in the given circuit will not glow  
 (D) Due to the battery in this circuit, electric wire behaves as magnet
10. What is the speed of a moving object whose kinetic energy is 4 times its momentum?  
 (A) 4 m/s (B) 8 m/s (C) 16 m/s (D) 32 m/s
11. Which of the following is a longitudinal wave?  
 (A) Light wave (B) Water wave (C) Sound wave (D) Radio wave
12. Which of the following spherical mirror is least curved?  
 (A) Focal length is 5 cm  
 (B) Radius of curvature is 5 cm  
 (C) Inverted but same size image formed at 6 cm in front of mirror  
 (D) Radius of curvature is 7 cm
13. What is the ratio of potential difference across the resistors  $1\ \Omega$ ,  $3\ \Omega$  &  $6\ \Omega$  connected as shown in the following circuit?

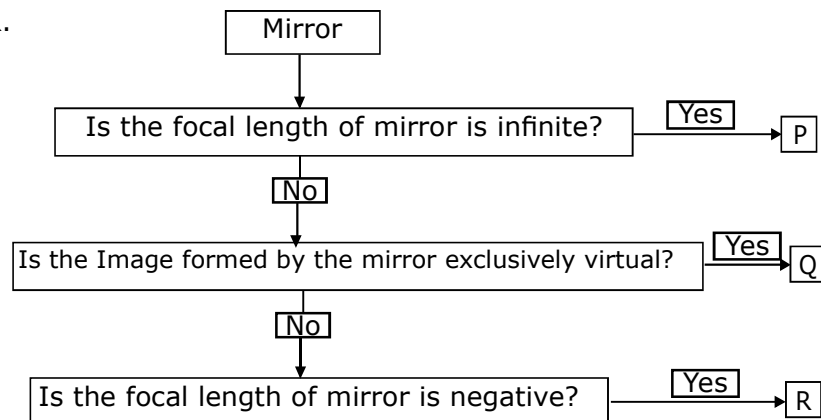


- (A) 6:3:1 (B) 1:2:3 (C) 1:3:6 (D) 1:1:1
14. Which of the following are applications of Ultrasonic waves?  
 P) SONAR Q) Sonography R) Echocardiography  
 (A) P,Q (B) Q, R (C) P, R (D) P,Q,R
15. Which object will experience the greatest buoyant force when submerged in water?  
 (A) A solid iron ball (B) A wooden block  
 (C) A hollow plastic ball (D) A solid aluminium cylinder

16. The figures given below show two iron nails attached to the end of a bar magnet. Choose the correct figure showing effect of magnet.



17. Which of the following temperatures give greatest buoyant force of the water?  
 (P)  $0^{\circ}\text{C}$                       (Q)  $4^{\circ}\text{C}$                       (R)  $277.15\text{ K}$                       (S)  $39.2^{\circ}\text{F}$   
 (A) P, Q and R                      (B) Q, R and S                      (C) P, R                      (D) Q, R
18. Arrange the following media in ascending order of their speed of sound.  
 (P) Vacuum                      (Q) Liquid                      (R) Gas                      (S) Solid  
 (A) P-R-Q-S                      (B) S-Q-R-P                      (C) R-Q-S-P                      (D) P-Q-R-S
19. Current of 1A is flowing through the filament of an electric bulb. How many electrons will pass through the cross-section of the filament in 16 seconds?  
 (A)  $10^{16}$                       (B)  $10^{18}$                       (C)  $10^{20}$                       (D)  $10^{22}$
20. Determine the odd one out:  
 (A) Gravitational Force                      (B) Frictional Force  
 (C) Electrostatic Force                      (D) Magnetic Force
21. On which principle does a fuse wire, made up of alloy, works?  
 (A) Heat produced by an electric current                      (B) Heat absorbed by an electric current  
 (C) Production of an electric current                      (D) Produce variable electric current
22. To Complete the following flowchart for a Real Object and a mirror, Select the correct alternative for P, Q, R.



Option	P (mirror)	Q (mirror)	R (mirror)
(A)	Plane	Concave	Convex
(B)	Convex	Concave	Plane
(C)	Plane	Convex	Concave
(D)	Concave	Plane	Convex

23. Which of the following statements are true for refracting telescope?  
 (P) Objective lens is larger than eye-piece  
 (Q) The images having chromatic aberration  
 (R) Eye-piece is larger than objective lens  
 (S) Mirrors are used in refracting telescope  
 (A) P and Q                    (B) P and S                    (C) P, Q and S                    (D) Q and S

24. Read the following statements and choose the correct option.

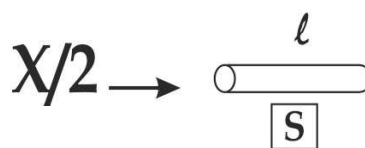
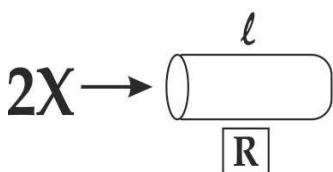
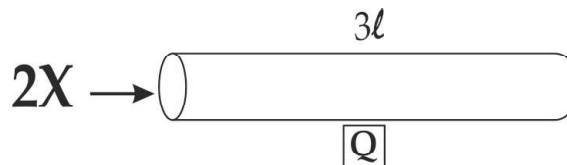
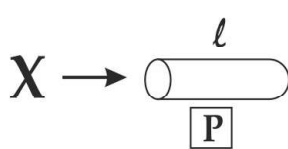
**Statement I :** Increasing the length of the conducting wire increases its resistance.

**Statement II :** Resistance is inversely proportional to the area of cross-section of the conductor.

- (A) Both Statement I & Statement II are true, and Statement II is the correct explanation of the Statement I  
 (B) Both Statement I and Statement II are true, but Statement II is not the correct explanation of the Statement I  
 (C) Statement I is true but Statement II is false  
 (D) Statement I is false and Statement II is true
25. If an object is placed at 12 cm in front of the concave mirror, determine the image distance from the mirror, if ratio of height of the object to its height of image is 1: 2.  
 (A) 24 cm                    (B) 12 cm                    (C) 6 cm                    (D) 36 cm
26. Which type of services are supported by INSAT and GSAT series satellites  
 (P) Telecommunication network  
 (Q) Education  
 (R) Monitoring and management of natural resources  
 (S) Television, broadcasting & meteorological  
 (A) P, Q, R                    (B) P, Q, S                    (C) P, R                    (D) P, S

27. Four distinct pieces of different dimensions are made from same metal as shown in the figure. Arrange them in the ascending order of resistances.

( In figure  $x$ - Cross sectional Area ,  $l$ - Length of the conductor )



- (A) R, P, Q, S                    (B) S, Q, P, R                    (C) P, Q, R, S                    (D) S, R, Q, P

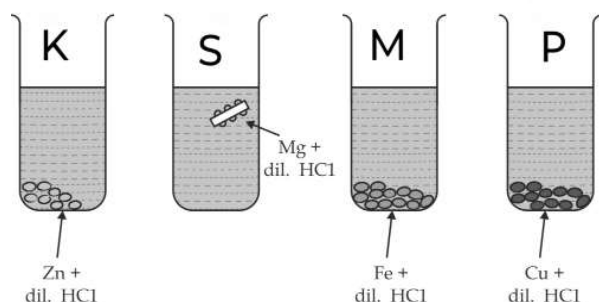
28. A Light ray makes an angle with plane mirror is  $45^\circ$ . If this angle is increased by  $15^\circ$ , then what is the effective angle of reflection?  
 (A)  $45^\circ$  (B)  $60^\circ$  (C)  $30^\circ$  (D)  $15^\circ$
29. Which of the following mixtures can be separated with the help of magnet?  
 (A) Iron + Cobalt (B) Copper+ Magnesium  
 (C) Nickel + Copper (D) Cobalt+ Nickel
30. Which of the following phenomenon causes mirage?  
 (A) Refraction and total internal reflection  
 (B) Total internal reflection and scattering  
 (C) Total internal reflection and dispersion  
 (D) Reflection and dispersion
31. Match the following

Allotropes of Carbon	Structure	Property
i) Diamond	x) Hexagonal	p) soluble in carbon disulphide
ii) Graphite	y) Buckyball	q) does not dissolve in any solvent
iii) Fullerene	z) Tetrahedron	r) does not dissolve in most of the solvent

- (A) i-z-q ii-x-r iii-y-p (B) i-x-q ii-z-r iii-y-p  
 (C) i-y-q ii-z-p iii-z-r (D) i-z-p ii-x-q iii-y-r
32. Identify the correct statements from the following.  
 a) Burning of wood is a physical and irreversible change  
 b) Boiling of water is a chemical and reversible change  
 c) Grinding wood into sawdust is a physical and irreversible change  
 (A) Only (a) (B) (a) & (b) (C) (b) & (c) (D) Only (c)
33. An element "X" is a bad conductor of electricity. It burns in oxygen to produce a gas which dissolves in water and the solution turns blue litmus paper red. The element "X" is.  
 (A) Carbon (B) Nitrogen (C) Magnesium (D) Sulphur
34. Three elements "X", "Y" & "Z" have atomic number 18,19,20. respectively. How many electrons are present in the "L" Shell of these elements?  
 (A) 8, 9, 10 (B) 8, 10, 13 (C) 8, 8, 8 (D) 8, 9, 12
35. Identify the correct option related to conversion of  $25^\circ\text{C}$ ,  $38^\circ\text{C}$  and  $66^\circ\text{C}$  to Kelvin scale, in ascending order.  
 (A) 298 K, 311 K and 399 K (B) 298 K, 300 K and 338 K  
 (C) 273 K, 278 K and 543K (D) 298 K, 311 K and 339 K

36. Which of the following reactions is not feasible.
- (A)  $\text{PbSO}_4 + \text{Fe} \rightarrow \text{FeSO}_4 + \text{Pb}$  (B)  $\text{Al} + \text{CuSO}_4 \rightarrow \text{Cu} + \text{Al}_2(\text{SO}_4)_3$   
 (C)  $\text{Zn} + \text{CaSO}_4 \rightarrow \text{ZnSO}_4 + \text{Ca}$  (D)  $\text{Mg} + \text{ZnSO}_4 \rightarrow \text{MgSO}_4 + \text{Zn}$
37. When water is added to solid calcium oxide. Which of the following statement is correct about this reaction?
- (A) Is endothermic & pH of the solution formed is more than 7  
 (B) Is exothermic and pH of the solution formed is 7  
 (C) Is endothermic and pH of the solution formed is 7  
 (D) Is exothermic & pH of the solution formed is more than 7
38. Which of the following compound have triple bond in its structural formula  
 (A)  $\text{C}_2\text{H}_4$  (B)  $\text{C}_3\text{H}_4$  (C)  $\text{C}_3\text{H}_8$  (D)  $\text{C}_2\text{H}_6$
39. When we add aluminum foil to freshly prepared sodium hydroxide solution a gas is produced. Which of the following correctly states the property of this gas?
- (A) Colourless and odourless gas produce a pop sound when burning match stick is brought near  
 (B) Colourless and odourless gas which extinguishes a burning Match tick  
 (C) Colourless and odourless gas which promotes burning of a candle  
 (D) Brown coloured pungent smelling gas

40.



The above Diagram shows the reaction between metal and dilute acid, why does Mg in the test tube "S" behave differently.

- (A) Mg is lighter element than dilute HCl  
 (B) Mg react with dilute HCl to produce  $\text{H}_2$  gas which help in floating  
 (C) Mg React with dilute HCl to produce in  $\text{Cl}_2$  gas which help in floating  
 (D) Mg React with dilute HCl to produce  $\text{MgCl}_2$  gas which help in floating
41. Which of the following options is correct related to the given chemical reaction?  
 $\text{Ca}(\text{OH})_2 + 2\text{HNO}_3 \rightarrow \text{Ca}(\text{NO}_3)_2 + 2\text{H}_2\text{O}$
- (i) It is balanced chemical equation  
 (ii)  $\text{Ca}(\text{NO}_3)_2$  is an acidic salt  
 (iii) pH of aqueous solution of  $\text{Ca}(\text{NO}_3)_2$  is 7  
 (iv)  $\text{Ca}(\text{OH})_2$  is also called as lime
- (A) (i), (iii) (B) (ii), (iv) (C) (i), (ii), (iii) (D) All of the above

42. Which of the following are obtained from petroleum?

- (X) CNG                      (Y) LPG                      (Z) Diesel                      (W) Coal gas  
 (A) (X) & (Y)              (B) (X) & (Z)              (C) (Y) & (Z)              (D) (X) & (W)

43. You are given test tubes 'X', 'Y' & 'Z' half filled with different solution of NaCl, NaOH, dil.HCl respectively. On adding one drop of phenolphthalein solution to each of the test tube, what will you observe in the test tubes?

Option	X	Y	Z
(A)	Colourless	Pale-green	Pink
(B)	Colourless	Pink	Colourless
(C)	Pink	Pink	Colourless
(D)	Pale-green	Colourless	Red

44. Match the columns in List-1 & List-2

List-1	List-2
P- Molecules having different physical properties but same chemical properties.	1. Isomers
Q- Substances having same molecular formula but different structure	2. Allotropes
R- Substances having same functional group but different molecular formula.	3. Functional Group
S- Group of atoms in a molecule which determines its chemical properties.	4. Homologous

- (A) P-1 Q-2 R-3 S-4                      (B) P-3 Q-2 R-1 S-4  
 (C) P-4 Q-3 R-1 S-2                      (D) P-2 Q-1 R-4 S-3

45. The common characteristic properties of plastic are.

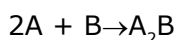
- (A) Durable, good conductor of electricity, non-reactive  
 (B) Durable, good conductor of heat, non reactive  
 (C) Good conductor of heat, light in weight, good conductor of electricity  
 (D) Durable, light in weight, non-reactive

46.  $\text{MnO}_2 + 4\text{HCl} \rightarrow \text{MnCl}_2 + 2\text{H}_2\text{O} + \text{Cl}_2 \uparrow$  the reaction given is redox reaction because in this case.

- (A)  $\text{MnO}_2$  is oxidised & HCl is reduced                      (B) HCl is oxidised  
 (C)  $\text{MnO}_2$  is reduced                      (D)  $\text{MnO}_2$  is reduced & HCl is oxidised



47. Two elements A & B were made to react with each other to form a substance  $A_2B$  according to the following reaction



Which of the following statements concerning this reaction are incorrect.

- (i) The product  $A_2B$  shows the properties of elements (A) & (B)
  - (ii) The product will always have a fixed composition
  - (iii) The product so formed cannot be classified as a compound
  - (iv) The product so formed is an element
- (A) (i), (ii) & (iii)    (B) (ii), (iii) & (iv)    (C) (i), (iii) & (iv)    (D) (i), (ii) & (iv)

48. Which of the following is a heterogeneous mixture.

- (A) Stainless steel    (B) Iodised table salt    (C) Air filled in a balloon    (D) Brass

49. The following observations were made by students on treating metals P, Q, R & S with the given salt solution.

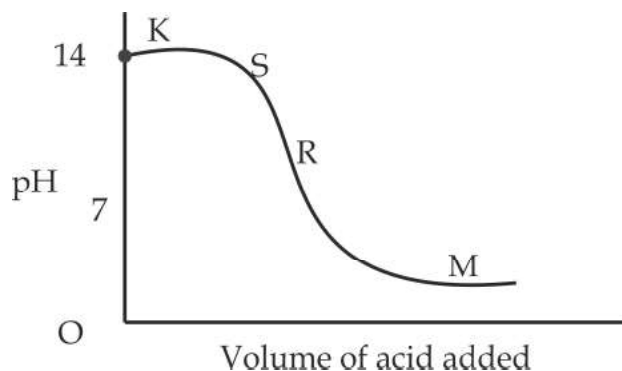
Sample	$MgSO_4(aq.)$	$Zn(NO_3)_2(aq.)$	$CaSO_4(aq.)$	$Na_2SO_4(aq.)$
P	x	√	√	x
Q	√	√	√	√
R	x	√	x	x
S	x	x	x	x

N.B: x = No reaction    √ = reaction Occur

Which is the correct increasing order of reactivity.

- (A)  $R < S < Q < P$     (B)  $S < R < P < Q$     (C)  $Q < P < R < S$     (D)  $P < Q < S < R$

50.



The graph given above depicts neutralization reaction. The pH of solution changes as we add excess acid to an alkali. Which letter denotes the area of the graph where both acid and salt are present?

- (A) K    (B) S    (C) R    (D) M

51. Which of the following is the molecular formula of sodium thiosulphate?

- (A)  $Na_2SO_4$     (B)  $Na_2S_2O_3$     (C)  $NaS_7H_5O_2$     (D)  $NaSiO_3$

**52. Direction:** In the following question, statement of assertion(X) is followed by statement of reason (Y) . Mark the correct choice as:

**Assertion: X:** Relative atomic mass of an atom of element is average mass of the atom as compared to 1/12 th the mass of one Carbon-12 atom .

**Reason: Y:** Carbon-12 isotope is the standard reference for measuring atomic masses.

- (A) Assertion (X) and reason (Y) are both true
- (B) Both the assertion( X ) and reason (Y) are false.
- (C) Assertion ( X ) is true but reason (Y) is false.
- (D) Assertion ( X ) is false but reason (Y) is true.

53. Which of the following statements are true for an elements

- (i) Atomic number= number of protons + number of electrons.
- (ii) Mass number= number of protons + number of neutrons.
- (iii) Atomic number= number of protons + number of neutrons.
- (iv) Atomic number= number of protons = number of electrons.

- (A) (i) & (ii)                      (B) (i) & (iii)                      (C) (ii) & (iii)                      (D) (ii) & (iv)

54. An ion  $X^{3+}$  is obtained from an element whose atomic mass number is 27 and atomic number is 13. The number of protons, electrons and a neutron in  $X^{3+}$  is respectively.

- (A) 14,13 & 10                      (B) 10,13 & 14                      (C) 13, 13 & 10                      (D) 13,10 & 14

55. Tartaric acid is found in

- (P) Lemons                      (Q) Amala                      (R) Unripe mangoes                      (S) Grapes

- (A) (P) and (Q)                      (B) (Q) and (R)                      (C) (R)and (S)                      (D) (P)and (R)

56. What is the name and symbol of the element with atomic number 30.

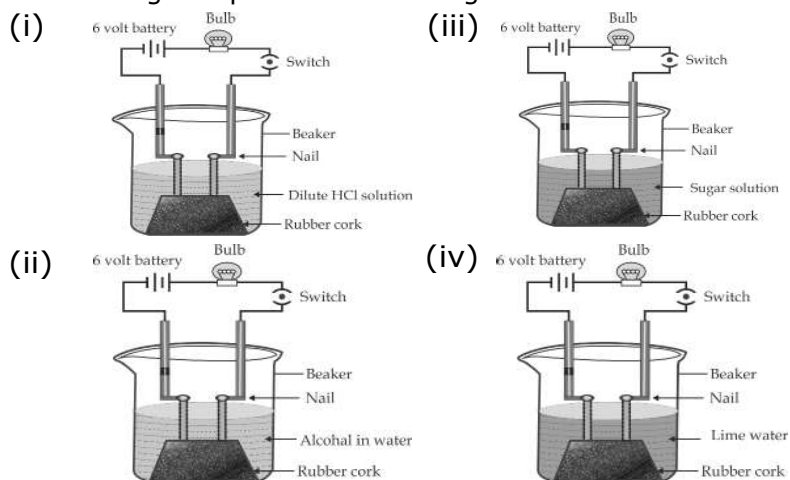
- (A) Iron, Fe                      (B) Cobalt, CO                      (C) Zinc, Zn                      (D) Nickel, Ni

57. Which of the following compounds have maximum number of water of crystallisation in one molecule ?

$FeSO_4$ ,  $CuSO_4$ ,  $CaSO_4$  &  $Na_2CO_3$

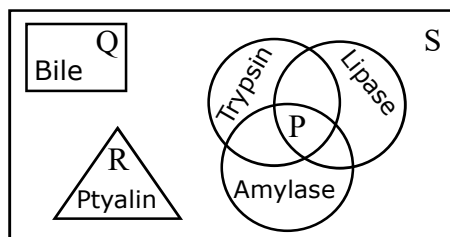
- (A)  $FeSO_4$                       (B)  $CuSO_4$                       (C)  $CaSO_4$                       (D)  $Na_2CO_3$

58. In which of the following setup would the bulb glow.



- (A) (i) & (ii)                      (B) (i) & (iv)                      (C) (ii), (iii) & (iv)                      (D)(i), (ii) & (iv)

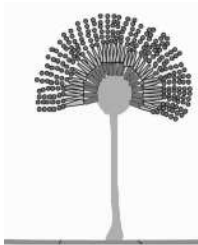
59. Sunil has black coffee with milk which of the following is most likely to be true about pH of the mixture.
- (A) It will be less than black coffee (B) It will be more than that of distilled water  
(C) It will be more than that of acid rain (D) It will be less than that of apple juice
60. Regarding  $K^+$  &  $Cl^-$  ions, which of the statement is NOT correct?
- (A) Both  $K^+$  &  $Cl^-$  ions contain 18 electrons.  
(B) Both  $K^+$  &  $Cl^-$  ions have same electronic configuration.  
(C)  $K^+$  ion is bigger than  $Cl^-$  ion in their atomic radius.  
(D)  $Cl^-$  ion is bigger than  $K^+$  ion in their atomic radius.
61. Identify the co-relation  
Cardiac muscles: contraction & relaxation of the heart  
:: straited muscles:.....
- (A) Movement of eye lids  
(B) Contraction and relaxation of blood vessels  
(C) Movement of arms & legs, running etc.  
(D) Passage of food through alimentary canal
62. Identify the correct pairs.
- (1) Excessive tobacco consumptions → visual disorders or tremors  
(2) Nicotine present in tobacco → Arteriosclerosis  
(3) Excessive smoking → Trembling of fingers  
(4) Smoke of cigarette & bidi → Affects the process of digestion
- (A) 1,2,4 (B) 2,4 (C) 1,3 (D) All above
63. Which of the following disorder is inherited from the mother only?
- (A) Monogenic (B) Chromosomal (C) Mitochondrial (D) Polygenic
64. Observe the Venn diagram and identify correct option related to R,Q,P



"S" is a set of important glands of digestive system.

Option	R	Q	P
(A)	Liver	Pancreas	Gastric wall
(B)	Salivary Gland	Liver	Pancreas
(C)	Liver	Gastric wall	Pancreas
(D)	Salivary Gland	Liver	Gastric wall

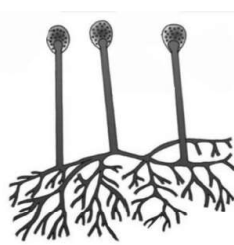
65. Which of the following pair of medicinal plant are used for treatment of Malaria & Cancer ?  
 (A) Bel & periwinkle (B) Cinchona & periwinkle  
 (C) Cinnamon & Cinchona (D) Periwinkle & Bel
66. Which of the following micro-organism is not directly involved in nitrogen fixation process?  
 (A) Nitrosomonas bacteria (B) Rhizobium bacteria  
 (C) Blue-green algae (D) Azotobactor bacteria
67. Which of the following are the types of lichen ?  
 1. Crustose 2. Foliose 3. Marchantia 4. Fruticose  
 (A) 1,2,4 (B) 1,2,3 (C) 2,3,4 (D) All above
68. Which of the following is rich source of lipids/fat?  
 (A) Milk of Dangi cow (B) Eggs of duck (C) Meat of goat (D) Pomfret fish
69. Observe the given diagrams and identify the pair of Aspergillus & Rhizopus



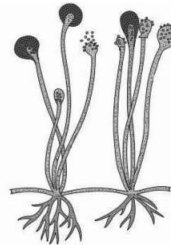
(P)



(Q)



(R)

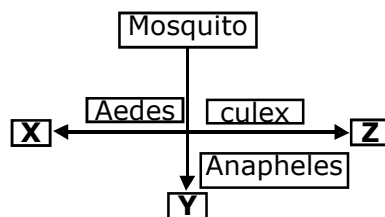


(S)



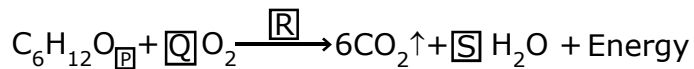
(T)

- (A) (P) & (Q) (B) (P) & (S) (C) (R) & (S) (D) (R) & (T)
70. Odd one out  
 (A) Murrah (B) Sahiwal (C) Mehsana (D) Surti
71. Which of the following pair of Honey bee emerge from the fertilized eggs?  
 (A) Worker bees & Drone bees (B) Queen bees & worker bees  
 (C) Drone bees & Queen bees (D) All above
72. Which of the following element is present in less amount in the cytoplasm of cell?  
 (A) Oxygen (B) Nitrogen (C) Hydrogen (D) Carbon
73. Observe the following diagram & select correct option related to X,Y & Z.



Option	X	Y	Z
(A)	Dengue	Kala-azar	Yellow fever
(B)	Dengue	Malaria	Filariasis
(C)	Malaria	Filariasis	Kala-azar
(D)	Dengue	Plague	Malaria

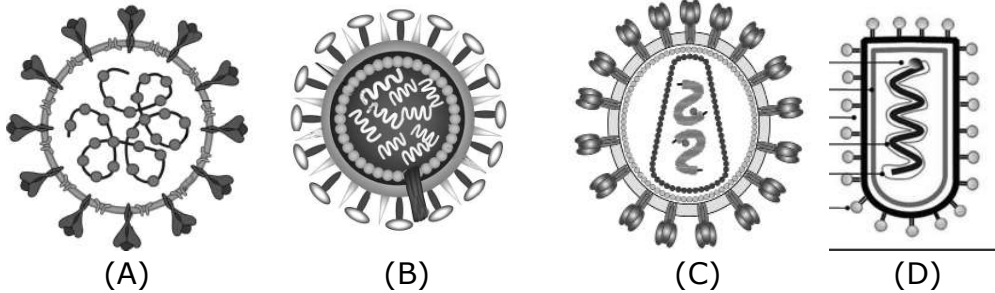
74. Identify the pair/pairs of plants belongs to division Gymnosperms
1. Cycas & Christmas tree
  2. Thuja & Deodar
  3. Picea & Pinus
  4. Morpankhi & Christmas tree
- (A) 2,3 (B) 1 (C) 2,3,4 (D) All above
75. Which of the following bacteria is /are used For the production of cidar , Leavened fodder & shrikhand?
- P. Bifidobacterium Q. Lactobacilli R. Escherichia coli S. Clostridium difficile
- (A) P,Q,S (B) Q,R,S (C) Only Q (D) Only R
76. Observe the chemical reaction in carbon cycle & choose the correct option related to P,Q,R,S



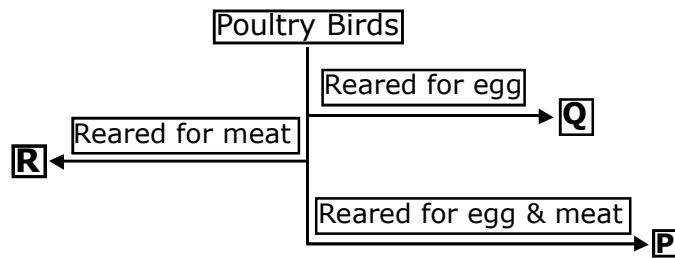
Option	P	Q	R	S
(A)	6	6	Chlorophyll	6
(B)	6	12	Sunlight	8
(C)	6	6	Mitochondria	6
(D)	12	6	Sunlight	6

77. Pyramid like structures are present in ..... part of human brain.
- (A) Spinal cord (B) Medulla oblongata (C) Cerebellum (D) Cerebrum
78. Comparatively in which period , very small quantity of urine is produced in human body?
- (A) March to May (B) July to September (C) November to January (D) All above
79. Which colour pigment is responsible for purple colour in plants.
- (A) Betalains (B) Carotene (C) Xanthophyll (D) Anthocyanin
80. Which of the following blood component participate in blood clotting process?
- (A) Red blood corpuscles (B) White blood cells
- (C) Albumin in plasma (D) Platelets
81. Identify the correct statements from the following.
- (1) America is the largest producer of electricity form solid waste
  - (2) To reduce the solid waste, purchasing of tetra-packs should be strictly avoided.
  - (3) 7-R principles are useful for solid waste management.
  - (4) Japan has developed the projects of production of thread & paper from banana peeling.
- (A) 1 & 4 (B) 2 & 3 (C) 1, 2, 3 (D) All above

82. Observe the different structures of viruses & identify the structure of HIV.



83. Observe the given flow-chart & choose the correct option related to Q,R,P



Option	Q	R	P
A	Long	Aseel	Brahma
B	Ancona	Cochin	Plymouth Rock
C	Cochin	Plymouth Rock	Ancona
D	Lehman	Black Rock	Rhode Island Red

84. Identify the wrong pairs / pair of the following

1. Collenchyma → cell wall contains pectin
2. Parenchyma → Thick cell wall
3. Sclerenchyma → cell wall contain cellulose & lignin
4. Xylem → conduct minerals
5. Phloem → conduct amino acids

(A) 3, 4, 5      (B) 2, 3, 4      (C) 4, 5, 1      (D) Only 2

85. Identify the example of bacterial disease.

- (A) Encephalitis      (B) Aspergillosis      (C) Anthrax      (D) Trypanosomiasis

86. Complete the analogy

Phytoplankton : 10,000 Kcal :: Bear:.....

- (A) 10 Kcal      (B) 100 Kcal      (C) 1000 Kcal      (D) 1,00,000 Kcal

87. Identify the wrong statements regarding the anaerobic respiration.

1. It occurs in cytoplasm & mitochondria
2. Only 2 ATP molecules are released.
3. It occurs in cytoplasm only.
4. It occurs in certain tissue like muscles during vigorous exercise.
5. 38 ATP molecules are released in it.

(A) 1,4,5      (B) 2,3,4      (C) 1 & 4      (D) 1 & 5

88. Which of the following statements are correct as related to sickle cell anaemia?
1. Constant low grade fever.
  2. Swelling of hands & legs.
  3. The skin becomes pale & eyes are pink.
  4. Low haemoglobin content
  5. Reproductive organs are not well developed.
- (A) 2,3,4                      (B) 1,4,5                      (C) 1,2,4                      (D) 3,4,5
89. Which of the following is not joined/attached in structure of nucleotide?
- (A) Sugar                      (B) Phosphoric acid                      (C) Nitrogenous base                      (D) Carbonic acid
90. Identify the correct pair of examples belongs to division pteridophyta.
- (A) Ulothrix & Sargassum                      (B) Anthoceros & Marchantia  
(C) Pteris & Ulva                      (D) Adiantum & Selaginella
91. Atmospheric waves experiment (AWE) is associated with which space agency.
- (A) NASA                      (B) JAXA                      (C) ISRO                      (D) CNSA
92. Which institution has recently developed portable device to determine the quality of water & Soil?
- (A) IIT Mumbai                      (B) IIT Madras                      (C) IISC Bangalore                      (D) DRDO
93. Which of the following disease is detected by conducting Truenat Test approved by ICMR?
- (A) Dengue                      (B) Nipah                      (C) Malaria                      (D) Typhoid
94. Which country has developed Tropical Deep-sea Neutrino Telescope (Trident)?
- (A) USA                      (B) INDIA                      (C) CHINA                      (D) FRANCE
95. CRISPER technology is used for.
- (A) Artificial Intelligence                      (B) Genetic editing  
(C) Quantum Computing                      (D) Renewable energy storage
96. What is primary objective of Gaganyaan mission?
- (A) To land Indian astronauts into space orbit.  
(B) To land Indian Spacecraft into lower Earth Orbit (LEO).  
(C) To send a spacecraft to mars.  
(D) To deploy communication satellites.
97. Which technology is commonly used in modern farming for monitoring crop health?
- (A) Drones                      (B) Manual Inspection  
(C) Traditional farming Tools                      (D) Scarecrow
98. In which of the following subject noble prize is not awarded?
- (A) Physics                      (B) Chemistry                      (C) Biology                      (D) Medical
99. Who is known as father of Modern chemistry?
- (A) Antoine Lavoiser                      (B) John Dalton                      (C) Robert Boyle                      (D) Amedo Avogadro
100. Nowadays which material is used for fast charging batteries.
- (A) Lithium                      (B) Graphene                      (C) Cadmium                      (D) Nickel

---

Space for Rough Work

Anyone found in unauthorised possession of this booklet is liable to be prosecuted.  
Copyright reserved. This test or any part thereof may not be reproduced in any form

---