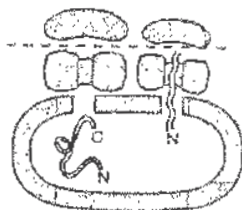


**CLASS : XI****BIOLOGY**

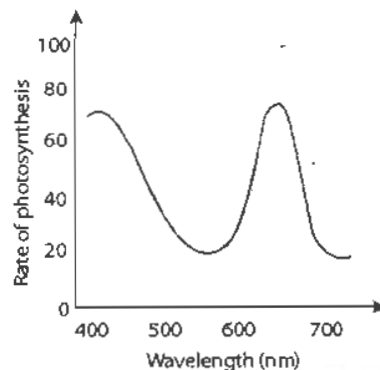
- 1. In the 5-kingdom classification, which of the following kingdoms include the blue-green algae, nitrogen-fixing bacteria and methanogenic archaebacteria?**  
(A) Monera (B) Fungi (C) Plantae (D) Protista
- 2. Mitochondria and chloroplasts share a number of features in common. Which of the following is not one of them?**  
(A) Both contain DNA  
(B) Both are important sites of energy conversion  
(C) Both are found in all eukaryotic cells  
(D) Both are surrounded by a double membrane
- 3. 'X' is a photosynthetic pigment with central Mg, 'Y' is an organic solvent pigment occur in chromoplasts and 'Z' is a protein linked pigment. Identify the pigments X, Y and Z.**  
(A) Chl.a, Chl.b, Chl.c  
(B) Chl.a, carotene, phycobilin  
(C) Carotene, xanthophyll, phycoerythrin  
(D) Chl.a, Chl.c, Chl.d
- 4. During which of the following stages of seed, the production and storage of energy in mitochondria increases?**  
(A) Seed germination (B) Dormant seed  
(C) Development of seeds (D) Seed formation
- 5. Which of the following processes generate energy and split water into hydrogen and oxygen?**  
(A) Glycolysis  
(B) Non-cyclic photophosphorylation  
(C) Citric acid cycle  
(D) Cyclic photophosphorylation
- 6. When pea seeds and wheat seeds are soaked in water, pea seeds show more swelling than the wheat seeds. Identify the reason from the following statements.**  
(A) Presence of less hydrophilic colloids in the wheat grain  
(B) Cell membrane of pea seeds is more permeable  
(C) Imbibition capacity of proteins is more than that of starch  
(D) Cell wall of wheat grains is less permeable

7. In a florist shop two students were making attempts to determine whether the collected flower bunches belong to monocots or dicots. What would you advise them to do as the most practical way to make this determination?
- (A) Check the vascular bundles in the stem  
 (B) Count the number of flowers  
 (C) Count the number of leaves  
 (D) Count the number of petals
8. If a nail is bored in a tree at a height of 50 cm from base, after 4 years the nail will be at a height of:
- (Hint: The tree increases by 120 cm/year)
- (A) 90 cm      (B) 50 cm      (C) 40 cm      (D) 92 cm
9. Farmers in a particular region were concerned that premature yellowing of leaves of a pulse crop might cause decrease in the yield. Which treatment could be the most beneficial to obtain maximum seed yield?
- (A) Application of iron and magnesium to promote synthesis of chlorophyll  
 (B) Frequent irrigation of crop  
 (C) Treatment of the plants with cytokinins along with a small dose of nitrogen fertiliser  
 (D) Removal of all yellow leaves and spray the remaining green leaves with 2, 4, 5-trichlorophenoxy acetic acid
10. X is consumed and Y is released in a catabolic reaction. Y is consumed and X is released in an anabolic reaction. If X and Y are gases in the respective reactions, identify the reactions.
- (A) Respiration and protein synthesis  
 (B) Glycolysis and chemosynthesis  
 (C) Respiration and photosynthesis  
 (D) Photosynthesis and protein synthesis
- Figure given below shows a cell organelle. Identify the function of the given organelle.
- (A) Generates energy  
 (B) Synthesise lipids  
 (C) Carries genetic material  
 (D) Synthesise proteins



12. **Why animals do not graze upon ferns?**  
(A) Because ferns are feather like plants.  
(B) Because their vegetative parts possess vascular tissues.  
(C) Because they contain phlobaphene a phenolic derivative.  
(D) Because of thick deposition of silica on the cell walls.
13. **Which of the following systems of classification is based on ancestry of plants?**  
(A) Natural system (B) Phylogenetic system  
(C) Homologous system (D) Analogous system
14. **In a flower there are five unequal petals. The posterior petal is the largest. The two anterior petals are partially fused to form a boat shaped structure. The two lateral petals are smaller than the posterior petal. Which of the following characters is not associated with such a flower?**  
(A) The aestivation of the petals is descendingly imbricate  
(B) The odd sepal is anterior  
(C) The pollination is by piston mechanism  
(D) The number of carpels are many
15. **Which of the following fruits and their edible part is correctly matched?**  
(A) Guava-Pericarp  
(B) Tomato-Thalamus  
(C) Pomegranate-Mesocarp  
(D) Apple-Epicarp
16. **Which cell organelle reduces the number of old worn out cell organelles?**  
(A) Glyoxisome (B) Centrosome  
(C) Lysosome (D) Peroxisome
17. **Both phloem sieve tube cells and xylem vessel cells are derived from the same kind of precursor cell, but at maturity they are very different. What feature is unique to phloem sieve tube cells?**  
(A) The cell membrane remains intact in mature functioning cell  
(B) The nucleus is firmly attached to the mature cell membrane  
(C) The cell wall is rigid because of the deposition of lignin  
(D) The cell undergoes programmed cell death during development

18. The graph given below represents:



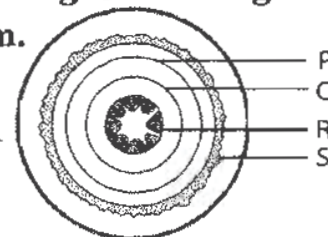
- (A) Absorption spectrum      (B) Action spectrum  
(C) Interference spectrum      (D) Spectroscope
19. A dwarf plant was infected naturally by a fungus. The infection resulted in excessive lengthening of the stem of the plant.

The secretion of the fungus most likely contains:

- (A) auxins      (B) gibberellins  
(C) cytokinins      (D) abscisic acid
20. Transverse section of two year woody stem is shown below. P and Q indicate the two annual growth rings. Identify R and S in the given diagram.

Identify R and S in the given diagram.

- (A) R-Primary xylem, S-Primary phloem  
(B) R-Secondary xylem, S-Secondary phloem  
(C) R-Primary xylem, S - Cork cambium  
(D) R-Pith, S-Secondary xylem



21. Which of the following tissues function as shock proof cushion?

- (A) Areolar tissue      (B) Adipose tissue  
(C) Collagen fibre      (D) Fibroblasts

22. A man of blood group 'A' marries a woman of blood group 'B'. Both of them are heterozygous for blood group. Chances of their first child having blood group AB will be:

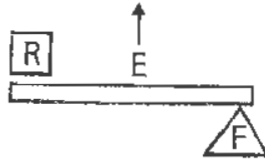
- (A) 25%      (B) 50%      (C) 75%      (D) 100%

23. Nisha is a housewife aged 55 years. She attained menopause five years ago. She often experiences aches and pains in her bones. Which of the following diseases is she suffering from?

- (A) Arthritis      (B) Osteoporosis  
(C) Osteoarthritis      (D) Rheumatoid arthritis

24. Which of the following endocrine glands is correctly matched with the given description?
- (A) *Thyroid*—hypersecretion in young children causes cretinism
  - (B) *Thymus*—regulates growth and stimulates proliferation of lymphocytes
  - (C) *Parathyroid*—increases the absorption of calcium ions from blood into bones during calcification
  - (D) *Pancreas*—controls protein metabolism and absorbs sugar from liver
25. Which of the following animals is insectivorous, nocturnal, produces a characteristic chirping sound of 'Yeko' or 'Geko' by striking the tongue against the palate and exhibits autotomy and regeneration?
- (A) Triturus
  - (B) Hemidactylus
  - (C) Rhacophorous
  - (D) Ichthyophis
26. A patient is identified with the symptoms like muscular dystrophy and cardiac failure. Which of the following vitamins and minerals should be supplemented in his diet to cure the disorder?
- (A) Pyridoxine and phosphorous
  - (B) Thiamine and magnesium
  - (C) Biotin and potassium
  - (D) Tocopherol and potassium
27. Which of the following hormones is responsible for emotional state such as fear, anger, pain and causes rise in blood pressure and rate of heart beat?
- (A) Thyroxin
  - (B) Insulin
  - (C) Adrenalin
  - (D) Progesterone
28. A blood analyst observed that people living at sea level have around 5 million RBC's per cubic millimeter of their blood whereas those living at an altitude of 5400 metres have around 8 million RBC's per cubic millimeter. This is because at high altitude:
- (A) people eat more nutritive food, therefore more RBC's are found.
  - (B) people get pollution free air to breathe and more oxygen is available.
  - (C) atmospheric oxygen level is low and hence more RBC's are needed.
  - (D) there is more UV radiation which enhances RBC production.

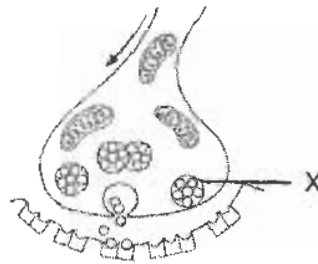
29. Which of the following bone movements exhibit the principle of III class lever?



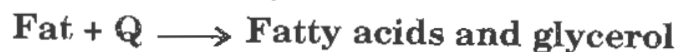
- (A) Joint between atlas vertebra and occipital bone  
 (B) Flexing movement of elbow  
 (C) Human body raised on toes  
 (D) Joint between atlas and axis
30. Which of the following pairs of specific names belong to the same common genus?
- (A) histolytica and donovani (B) histolytica and falciparum  
 (C) histolytica and coli (D) histolytica and proteus
31. Which of the following structures of eye is devoid of blood supply?
- (A) Retina (B) Cornea (C) Choroid (D) Sclera
32. Krebs's cycle was discovered by Krebs in pigeon muscles in 1940. Which step is also called gateway step or link reaction or transition reaction in respiration?
- (A) Glycolysis (B) Formation of acetyl Co-A  
 (C) Citric acid formation (D) ETS terminal oxidation
33. Figure given below shows the transmission of impulses across the synapse.

Identify 'X' and its function from the following.

- (A) Ribosome – synthesise proteins  
 (B) Lysosome – produce enzymes  
 (C) Vesicle – release neurotransmitters  
 (D) Granule – stores starch



34. The equation given below shows enzymes P and Q acting on starch and fats respectively. Identify P and Q.



- (A) P–Maltase, Q – Protease (B) P–Amylase, Q – Lipase  
 (C) P–Lipase, Q – Protease (D) P–Lipase, Q – Amylase

35. A cricket player is fast chasing a ball in the field. Which one of the following groups of leg bones are directly contributing in this movement?
- (A) Femur, malleus, tibia, metatarsals  
 (B) Tarsals, femur; metatarsals, tibia  
 (C) Sternum, femur, tibia, fibula  
 (D) Pelvis, ulna, patella, tarsals
36. If frog's brain is crushed, even then its legs move on pinpointing. The movement of leg is due to:
- (A) unconditioned reflex (B) conditioned reflex  
 (C) neurotransmitter function (D) autonomic nerve condition
37. Which one of the following statements is incorrect?
- (A) The principle of counter current flow facilitates efficient respiration in gills of fishes  
 (B) The residual air in lungs slightly decreases the efficient respiration in mammals  
 (C) The presence of non-respiratory air sacs, increases the efficient respiration in birds  
 (D) In insects, circulating body fluids serve to distribute oxygen to tissues
38. Which of the following structures is not associated with the locomotion in Protozoa?
- (A) Axonemes (B) Parapodia (C) Pseudopodia (D) Myonemes
39. Which of the following waste products are removed from liver as a part of ornithine cycle?
- (A) Urea and carbon dioxide (B) Carbon dioxide and ammonia  
 (C) Ammonia and uric acid (D) Ammonia and urea
40. The sequence given below shows the flow of nerve impulses in detecting a stimulus and responding to it.



Which of the following are represented by P,Q and R?

- | P                 | Q             | R             |
|-------------------|---------------|---------------|
| (A) Sensory organ | Effectors     | Brain         |
| (B) Sensory organ | Brain         | Effectors     |
| (C) Effectors     | Sensory organ | Brain         |
| (D) Effectors     | Brain         | Sensory organ |

## CLASS : XI

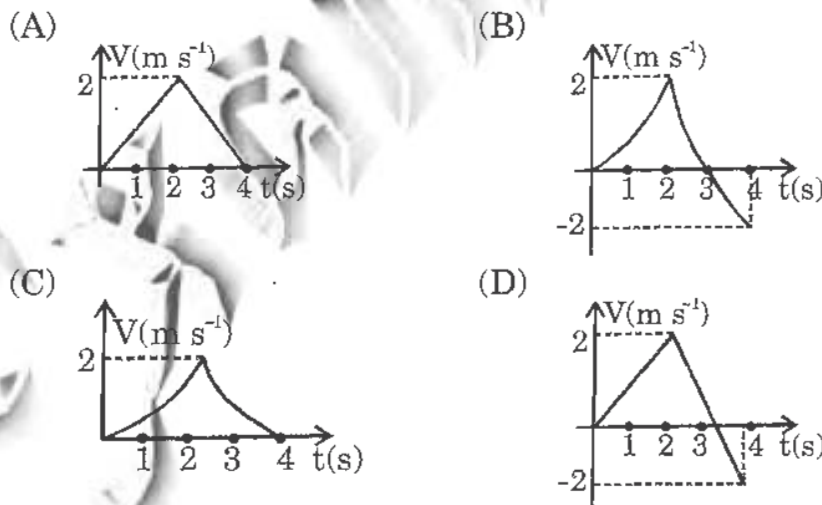
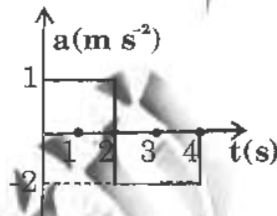
## PHYSICS

41. What is the duration of motion of a freely falling body over the  $n^{\text{th}}$  centimeter of its path ?

(A)  $\sqrt{\frac{2}{g}} [\sqrt{n} - \sqrt{n-1}]$       (B)  $\frac{\sqrt{2(n+1)}}{g}$

(C)  $\frac{\sqrt{2(n-1)}}{g}$       (D)  $\frac{\sqrt{2}}{g} [\sqrt{n+1} - \sqrt{n}]$

42. A particle moves in one dimension. The velocity and acceleration of the particle are given by  $V$  and  $a$  respectively. By observing the acceleration versus time given below, identify which of the following graph(s) below are consistent with measured acceleration ?



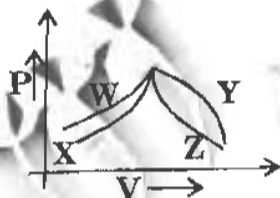
43. Sumit holds a bucket of weight 50 N. He walks 3 m along the horizontal and then climbs up a vertical distance of 6 m. What is the work done by the Sumit on the bucket ?

(A) 450 J      (B) 300 J      (C) 150 J      (D) 0

44. Which of the following causes an increase in Brownian motion ?



- (A) Increase in size of Brownian particles.  
 (B) Increase in density of medium.  
 (C) Increase in temperature of medium.  
 (D) Increase in viscosity of medium.
45. The temperature of an ideal gas is increased from  $27^\circ\text{C}$  to  $927^\circ\text{C}$ . By what percent does the root mean square speed of its molecules change ?  
 (A) 50 %      (B) -75%      (C) 100 %      (D) 200 %
46. A body of mass 4 kg is sliding down the inclined plane of inclination  $30^\circ$  with constant velocity. The coefficient of friction is  $2/\sqrt{3}$ . What is the force applied on the body parallel to the inclined plane ? (Take  $g = 9.8 \text{ m s}^{-2}$ )  
 (A) 9.8 N      (B) 19.6 N      (C) 29.4 N      (D) 39.2 N
47. Pressure versus volume graph given below shows four PV diagrams for the given sample of gas. In which case no exchange of heat occurs with the sample ?



- (A) W      (B) X      (C) Y      (D) Z
48. **Assertion:** The ratio of  $C_p/C_v$  for a triatomic gas is less than that for a monoatomic gas.  
**Reason:** The molecules of a monoatomic gas have less degree of freedom than those of a triatomic gas.  
 (A) Both assertion and reason are true and reason is the correct explanation of assertion.  
 (B) Both assertion and reason are true, but reason is not the correct explanation of assertion.  
 (C) Assertion is true, reason is false.  
 (D) Assertion is false, reason is true.
49. A circular railway track of radius  $r$  is banked at an angle  $\theta$  so that a train moving with speed  $V$  can safely go round the track. A student writes :  $\tan \theta = rg/V^2$ . Why is this relation not correct ?

- I. Relation is dimensionally incorrect  
 II. Dimensional equality does not guarantee correctness of the relation  
 III. A numerically correct relation may not be dimensionally correct

- (A) I and II only (B) II and III only  
 (C) I and III only (D) I, II and III

50. Three identical spheres each of mass  $M$  are placed at the corners of an equilateral triangle of side  $4\text{ m}$ . Taking one of the corners as the origin one of the sides along  $X$ -axis, find the position vector of the centre of mass.

- (A)  $\hat{i} + 2\hat{j}$  (B)  $\sqrt{3}\hat{j} + 2\hat{i}$  (C)  $2\hat{i} + \frac{2}{\sqrt{3}}\hat{j}$  (D)  $\hat{i} + 3\hat{j}$

51. Three particles each of mass  $M$  are placed at the three corners of an equilateral triangle of side  $l$ . What is force due to this system of particle on another particle of mass  $m$  placed at the midpoint of any side?

- (A)  $\frac{3GMm}{4l^2}$  (B)  $\frac{4GMm}{l^2}$  (C)  $\frac{GMm}{4l^2}$  (D)  $\frac{4GMm}{3l^2}$

52. A solid sphere rolls down an inclined plane and its velocity at the bottom is  $V_1$ . The same sphere slides down the same plane and its velocity at the bottom is  $V_2$ . Find the ratio of  $V_1$  to  $V_2$ .

- (A)  $1:1$  (B)  $\sqrt{5}:\sqrt{7}$  (C)  $\sqrt{5}:\sqrt{3}$  (D)  $1:\sqrt{2}$

53. A liquid is allowed to flow through two capillary tubes connected in series. If their lengths are  $L$  and  $2L$  and radii  $r$  and  $2r$  respectively then what is the ratio of pressure difference across the first and the second tube?

- (A)  $8:1$  (B)  $2:1$  (C)  $4:1$  (D)  $1:\sqrt{2}$

54. What is the nature of graph between height to which the liquid rises in a capillary tube and radius of the tube?

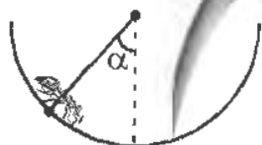
- (A) Parabola  
 (B) Ellipse  
 (C) Rectangular hyperbola  
 (D) Straight line passing through the origin

55. When a simple pendulum is rotated in a vertical plane with constant angular velocity which of the following given below is same at all points?  
(A) Centripetal force (B) Linear velocity  
(C) Linear momentum (D) Tension in the string
56. A heavy block is slowly placed on a conveyer belt moving with a speed of  $4 \text{ m s}^{-1}$ . The coefficient of friction between the block and the belt is 0.2. Find the distance through which the block slides on the belt? (Take  $g = 10 \text{ m s}^{-2}$ )  
(A) 1 m (B) 6 m (C) 4 m (D) 8 m
57. Through four gases hydrogen, nitrogen, oxygen and chlorine sound is made to propagate at same temperature. Identify from the following the ascending order of magnitude of velocity of sound in the above four gases.  
(A) Nitrogen, oxygen, chlorine, hydrogen.  
(B) Chlorine, oxygen, nitrogen, hydrogen.  
(C) Oxygen, chlorine, hydrogen, nitrogen.  
(D) Hydrogen, nitrogen, oxygen, chlorine.
58. An ambulance blowing a whistle of frequency 676 Hz is travelling slowly towards a vertical reflecting wall with a speed of  $2 \text{ m s}^{-1}$ . Calculate the number of beats heard in one second by the driver of the ambulance.  
(Take velocity of sound =  $340 \text{ m s}^{-1}$ )  
(A) 2 Hz (B) 4 Hz (C) 8 Hz (D) 6 Hz
59. Why an artificial satellite orbiting the earth does not fall down?  
(A) The earth's attraction is balanced by the attraction of the moon.  
(B) The earth's attraction vanishes at such great distances.  
(C) The earth's attraction is balanced by the viscous drag produced by the atmosphere.  
(D) Due to inertia of direction.
60. Two sound waves are respectively :  
 $y = a \sin (\omega t - kx)$  and  $y = b \cos (\omega t - kx)$   
What is the phase difference between the two waves ?  
(A)  $\pi/2$  (B)  $\pi/4$  (C)  $\pi$  (D)  $3\pi/4$

61. **Assertion** : Within elastic limits, Young's modulus of a solid decreases with increase of temperature.

**Reason** : On increasing temperature of a solid, strain increases and stress decreases.

- (A) Both assertion and reason are true and reason is the correct explanation of assertion.  
 (B) Both assertion and reason are true, but reason is not the correct explanation of assertion.  
 (C) Assertion is true, reason is false.  
 (D) Assertion is false, reason is true.
62. **Figure given below shows an ant crawling up a hemispherical surface. If the coefficient of friction between insect and surface is 0.25, then what is the maximum value of  $\alpha$  ?**



- (A)  $\sec^{-1}(4)$  (B)  $\operatorname{cosec}^{-1}(4)$  (C)  $\tan^{-1}(25)$  (D)  $\cot^{-1}(4)$

63. **Rohan connects two equal masses A and B of mass m as shown in the figure. The spring is compressed and then released. At the instant shown the acceleration of mass A is a. What is the acceleration of mass B ?**



- (A) a (B) -a (C)  $F/2m$  (D)  $\left(\frac{F}{m}\right) - a$

64. **How many gram of ice at  $-14^\circ\text{C}$  is needed to cool 200 g of water from  $25^\circ\text{C}$  to  $10^\circ\text{C}$  ? (Sp. heat of ice =  $0.5 \text{ cal g}^{-1} \text{ }^\circ\text{C}^{-1}$ )**

- (A) 18 g (B) 14 g (C) 31 g (D) 62 g

65. **Rishi joined together three identical thin rods each of length l and mass M to form a letter H. What is the moment of inertia of the system about one of its sides ?**

- (A)  $\frac{MI^2}{3}$  (B)  $\frac{4}{3}MI^2$  (C)  $\frac{2}{3}MI^2$  (D) zero

## CLASS : XI

## CHEMISTRY

66. Which principle goes against the concept of Bohr's fixed orbits ?  
(A) Pauli's exclusion principle  
(B) Aufbau principle  
(C) Heisenberg's uncertainty principle  
(D) Hund's rule of maximum multiplicity
67. Which of the following molecules has highest dipole moment ?  
(A)  $\text{CH}_4$       (B)  $\text{NF}_3$       (C)  $\text{CO}_2$       (D)  $\text{BCl}_3$
68. In the reaction,  $\text{A}_{2(g)} + 2\text{B}_{2(g)} \rightleftharpoons 2\text{AB}_2(g) + \text{heat}$ . How is the equilibrium shifted to right ?  
(A) Decreasing pressure and increasing temperature.  
(B) Decreasing pressure and decreasing temperature.  
(C) Increasing pressure and increasing temperature.  
(D) Increasing pressure and decreasing temperature.
69. By decrease of which of the following determines the direction of a chemical reaction ?  
(A) Entropy      (B) Enthalpy  
(C) Gibb's free energy      (D) Heat of vaporisation
70. Which of the following properties are common to all groups in the periodic table ?
- I. Electro positive character increases down the group  
II. Reactivity decreases from top to bottom in the groups.  
III. Atomic radii increase as the atomic number increases.
- (A) I and III only      (B) II and I only  
(C) II and III only      (D) I, II and III
71. **Assertion :** Solubility of alkaline earth metal sulphate decreases down the group.  
**Reason :** Alkaline earth metals are s block elements.

- (A) Both assertion and reason are true, but reason is not the correct explanation of assertion.  
 (B) Both assertion and reason are true and reason is the correct explanation of assertion.  
 (C) Assertion is true, reason is false.  
 (D) Assertion is false, reason is true.
72. The normal boiling points of X, Y, Z are 100 °C, 41.3 °C and 77 °C respectively. Identify the liquid with weakest inter molecular forces.  
 (A) Y (B) X  
 (C) Z (D) Data insufficient
73. In which of the following maximum number of molecules are present ?  
 (A) 0.4 g of H<sub>2</sub> gas (B) 22 g of Cl<sub>2</sub> gas  
 (C) 5 l of N<sub>2</sub> gas at STP (D) 14 l of H<sub>2</sub> gas at STP
74. What is the product liberated at anode when a molten ionic hydride is electrolysed ?  
 (A) H<sup>+</sup> ions (B) H<sub>2</sub> gas (C) H<sup>-</sup> ions (D) H<sub>3</sub>O<sup>+</sup> ions
75. In a balanced chemical equation,  

$$\text{K}_2\text{Cr}_2\text{O}_7 + x\text{H}_2\text{SO}_4 + y\text{SO}_2 \rightarrow \text{K}_2\text{SO}_4 + \text{Cr}_2(\text{SO}_4)_3 + z\text{H}_2\text{O}$$
 What are the values of x, y and z ?  
 (A) 2, 3, 2 (B) 2, 1, 3 (C) 1, 3, 1 (D) 3, 2, 2
76. What volume of 9 M HCl and 3 M HCl should be mixed to obtain 1 litre of 6 M HCl solution ?  
 (A) 500 ml (B) 1 l (C) 333 ml (D) 2 l
77. Identify the nature of aqueous solution of borax.  
 (A) Acidic (B) Neutral (C) Basic (D) Amphoteric
78. Find the ratio between the rms velocity of H<sub>2</sub> at 40 K to that of O<sub>2</sub> at 640 K.  
 (A) 2 : 1 (B) 1 : 1 (C) 1 : 20 (D) 4 : 1
79. **Assertion :** Limiting line in the Balmer series have a wavelength of 364.4 nm.  
**Reason :** Limiting lines is obtained for a jump of an electron from  $n = \infty$

- (A) Both assertion and reason are true and reason is the correct explanation of assertion.  
 (B) Both assertion and reason are true, but reason is not the correct explanation of assertion.  
 (C) Assertion is true, reason is false.  
 (D) Assertion is false, reason is true.

80. In pyrosilicates, how are the silicates of two tetrahedral units linked ?

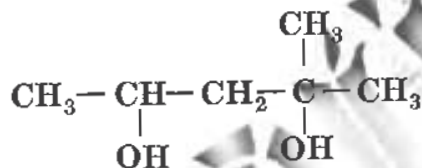
- (A) Four points (B) Three points  
 (C) Two points (D) One point

81. Arrange the bonds formed due to the following overlaps in the increasing order of bond strength ?

- |      |                              |
|------|------------------------------|
| I.   | s-s overlap                  |
| II.  | s-p overlap                  |
| III. | p-p overlap (along the axis) |

- (A) I, II, III (B) I, III, II (C) II, I, III (D) II, III, I

82. What is the IUPAC name for ?



- (A) 1, 1 - dimethyl butane - 1, 3 - diol  
 (B) 4 - methyl pentane - 2, 4 - diol  
 (C) 2 - methyl pentane - 2, 4 - diol  
 (D) 1, 3, 3 - trimethyl propane - 1, 3 - diol

83. Why is pure NaCl precipitated, when HCl gas is passed through a saturated solution of common salt ?

- (A) The solubility product of NaCl is lowered by  $\text{Cl}^-$  ions from aqueous HCl  
 (B) Ionic product,  $[\text{Na}^+][\text{Cl}^-]$  exceeds the solubility product of NaCl.  
 (C) The impurities dissolve in HCl.  
 (D) HCl is highly soluble in water.

84. Which of the following is the correct ascending order of ionic radii ?
- (A)  $\text{Al}^{+3} < \text{Si}^{+4} < \text{Mg}^{+2} < \text{Na}^{+}$       (B)  $\text{Na}^{+} < \text{Mg}^{+2} < \text{Si}^{+4} < \text{Al}^{+3}$   
 (C)  $\text{Al}^{+3} < \text{Si}^{+4} < \text{Mg}^{+2} < \text{Na}^{+}$       (D)  $\text{Si}^{+4} < \text{Al}^{+3} < \text{Mg}^{+2} < \text{Na}^{+}$
85. Which gas may be collected over water?
- (A)  $\text{NH}_3$       (B)  $\text{HCl}$       (C)  $\text{SO}_2$       (D)  $\text{N}_2$
86. Which of the following is a disproportionation reaction?
- (A)  $2\text{Cr}_2\text{O}_7^{2-} + 2\text{OH}^- \rightarrow 2\text{CrO}_4^{2-} + \text{H}_2\text{O}$   
 (B)  $\text{Cu}_2\text{O} + 2\text{H}^+ \rightarrow \text{Cu} + \text{Cu}^{+2} + \text{H}_2\text{O}$   
 (C)  $2\text{CrO}_4^{2-} + 2\text{H}^+ \rightarrow \text{Cr}_2\text{O}_7^{2-} + \text{H}_2\text{O}$   
 (D)  $\text{CaCO}_3 + 2\text{H}^+ \rightarrow \text{Ca}^{+2} + \text{H}_2\text{O} + \text{CO}_2$
87. Which of the following reactions will yield 2, 2 - dibromo propane ?
- (A)  $\text{CH}_3 - \text{CH} = \text{CH}_2 + \text{HBr} \rightarrow$       (B)  $\text{CH}_3 - \text{CH} = \text{CHBr} + \text{HBr} \rightarrow$   
 (C)  $\text{CH}_3 - \text{C} \equiv \text{CH} + 2\text{HBr} \rightarrow$       (D)  $\text{CH} \equiv \text{CH} + 2\text{HBr} \rightarrow$
88. What does n - propyl bromide on treatment with ethanolic potassium hydroxide produce ?
- (A) Propyne      (B) Propane      (C) Propanol      (D) Propene
89. **Assertion :** Be does not impart any characteristic colour to the bunsen flame.
- Reason :** Due to the very high ionization energy, beryllium requires a large amount of energy for excitation of the electrons.
- (A) Both assertion and reason are true and reason is the correct explanation of assertion.  
 (B) Both assertion and reason are true, but reason is not the correct explanation of assertion.  
 (C) Assertion is true, reason is false.  
 (D) Assertion is false, reason is true.
90. What is the reagent used for testing fluoride ion in water?
- (A) Quinalizarin      (B) Alizarin - S  
 (C) Benzene      (D) Phenolphthalein

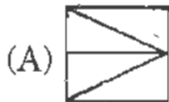


**CLASS : XI****GENERAL KNOWLEDGE**

91. Choose the alternative which has figure (X) embedded in it.



(X)



92. What is vexillology the study of?

- (A) Flags (B) Medals (C) Coins (D) Words

93. Choose the correct alternative from the given ones that will complete the series.

4, 7, 11, 18, ? 47, 76

- (A) 81 (B) 29 (C) 32 (D) 36

94. Who has written the book called "My Presidential Years"?

- (A) R. Venkataraman (B) A.P.J. Abdul Kalam  
(C) K.R. Narayanan (D) Shankar Dayal Sharma

95. Which country topped the gold medal tally in the 2008 Beijing Olympic Games?

- (A) Russia (B) Germany (C) China (D) USA

96. The Indian Maritime University is inaugurated in:

- (A) Visakhapatnam (B) Cochin (C) Chennai (D) Mumbai

97. Which of these promotes monetary co-operation and currency stabilization?

- (A) WHO (B) ILO (C) IMF (D) MIGA

98. Martyr's Day is celebrated on:

- (A) January 12 (B) January 30 (C) January 15 (D) January 10

99. Who among the following got Oscar award recently for Best Sound Mixing?

- (A) A.R. Rahman (B) Danny Boyle (C) Rasool Pookutty (D) Dev Patel

100. Operation Tornado is the Anti terror operation of Indian government during:

- (A) Kargil intrusion (B) Parliament attack  
(C) Akshardam temple issue (D) Mumbai Taj hotel attack



## KEY FOR THE Q.P.-2010

1. D	2. D	3. A	4. D	5. A	6. B	7. B	8. A
9. D	10. A	11. C	12. A	13. C	14. C	15. A	16. C
17. A	18. D	19. A	20. B	21. D	22. B	23. B	24. A
25. A	26. B	27. A	28. C	29. B	30. A	31. D	32. C
33. C	34. B	35. A	36. B	37. B	38. B	39. B	40. A
41. A	42. D	43. B	44. C	45. C	46. B	47. D	48. A
49. B	50. C	51. D	52. B	53. A	54. C	55. A	56. C
57. B	58. C	59. D	60. A	61. A	62. D	63. A	64. C
65. B	66. C	67. B	68. D	69. C	70. A	71. B	72. A
73. D	74. B	75. C	76. A	77. C	78. B	79. A	80. D
81. A	82. C	83. B	84. D	85. D	86. B	87. C	88. D
89. A	90. B	91. C	92. A	93. B	94. A	95. C	96. C
97. C	98. B	99. C	100. D				

