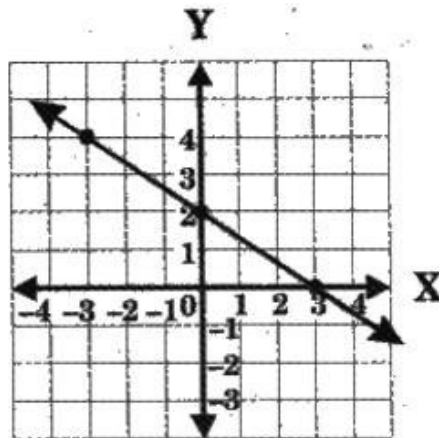


# National Level Science Talent Search Examination - 2014

**Class : IX**

**Mathematics**

- ➔ **1** Which of the following equations represents the given graph?

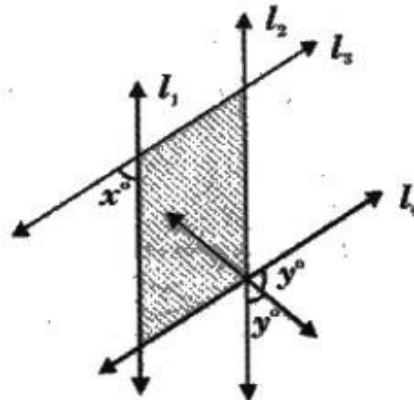


- (A)  $2x + y = 6$                       (B)  $y + 2x + 4$   
 (C)  $2(x - 1) + 3y = 4$               (D)  $2x - 3y = 6$

- ➔ **2** If two chords AD and BE are drawn perpendicular to a chord AB of a circle which of the following is correct?

- (A)  $AD = BE$                       (B)  $AD = 2BE$   
 (C)  $2AD = BE$                       (D)  $AD = 3BE$

- ➔ **3** In the given figure, if  $l_1 \parallel l_2$  and  $l_3 \parallel l_4$ , what is 'y' in terms of 'x'?



- (A)  $90^\circ + x$     (B)  $90^\circ + 2x$     (C)  $90^\circ - \frac{x}{2}$     (D)  $90^\circ - 2x$

4

In  $\triangle ABC$ , if  $AD$  is a median, which of the following relations holds good?

- (A)  $AB + AC \geq 2AD$       (B)  $AB + AC < 2AD$   
 (C)  $AB + AC = 2AD$       (D)  $AB + AC > 2AD$

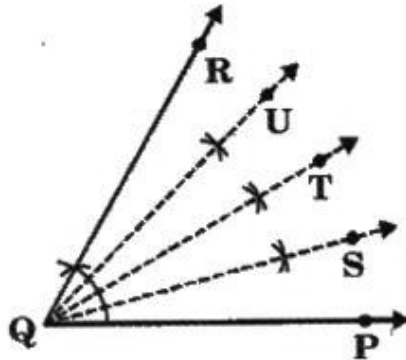
5

Find 'x', if  $8^{x-2} \times \left(\frac{1}{2}\right)^{4-3x} = (0.0625)^x$ .

- (A) 0      (B) 4      (C) 2      (D) 1

6

In the following figure,  $\angle PQR = 60^\circ$ ,  $\angle PQR$  is bisected and the resultant angles are bisected again.



Find  $\angle TQS + \angle SQU + \angle PQS$ .

- (A)  $20^\circ$       (B)  $15^\circ$       (C)  $60^\circ$       (D)  $18^\circ$

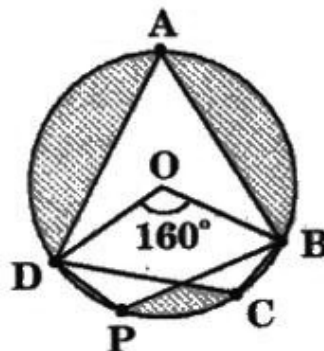
7

A bag contains 3 red balls, 5 black balls and 4 white balls. A ball is drawn at random from the bag. What is the probability of not getting a black ball?

- (A)  $\frac{1}{4}$       (B)  $\frac{5}{12}$       (C)  $\frac{1}{3}$       (D)  $\frac{7}{12}$

8

In the given figure,  $ABCD$  and  $ABPD$  are two cyclic quadrilaterals.

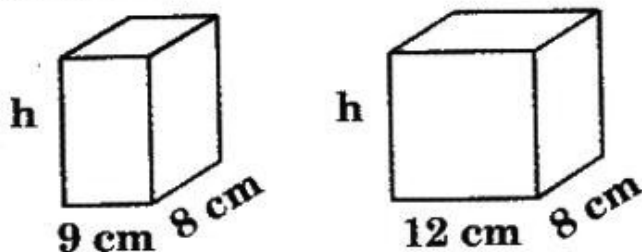


If  $\angle BOD = 160^\circ$ , find the difference of  $\angle BPD$  and  $\angle BCD$ .

- (A)  $80^\circ$       (B)  $160^\circ$       (C)  $0^\circ$       (D)  $100^\circ$

9

Two rectangular boxes have the same height and length, but different widths as shown in the figure.



The difference in the volumes of the boxes is  $360 \text{ cm}^3$ . What is the height of the boxes?

- (A) 18 cm    (B) 15 cm    (C) 16 cm    (D) 14 cm

10

A field is in the shape of a trapezium whose parallel sides are 50 m and 15 m. The non-parallel sides are 20 m and 25 m. What is the area of the field?

- (A)  $\frac{900\sqrt{6}}{7} \text{ m}^2$                       (B)  $\frac{1100\sqrt{6}}{7} \text{ m}^2$   
 (C)  $\frac{1300\sqrt{6}}{7} \text{ m}^2$                       (D)  $\frac{1500\sqrt{6}}{7} \text{ m}^2$

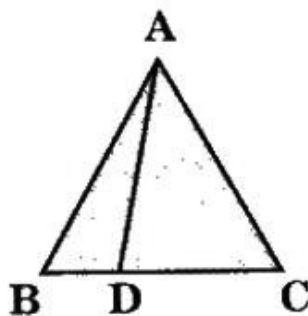
11

$p(x)$  is a polynomial satisfying  $p\left(x + \frac{3}{2}\right) = p(x)$ , for all real values of 'x'. If  $p(5) = 2010$ , what is the value of  $p(8)$ ?

- (A) 2010    (B)  $2009\frac{1}{2}$     (C)  $\frac{2009}{2}$     (D)  $2010\frac{1}{2}$

12

In the figure given, D divides the side BC of  $\triangle ABC$  in the ratio 3 : 5. What is the area of  $\triangle ABD$ ?



- (A)  $\frac{2}{5} \times \text{ar}(\triangle ABC)$                       (B)  $\frac{3}{5} \times \text{ar}(\triangle ABC)$   
 (C)  $\frac{5}{8} \times \text{ar}(\triangle ABC)$                       (D)  $\frac{3}{8} \times \text{ar}(\triangle ABC)$

13 The base of a conical tent is of area 616 sq. cm. A 48 cm long vertical pole is placed at its centre so that it touches the roof of the tent. How much canvas is needed to make the tent if the base is also covered with canvas?

- (A) 2816 cm<sup>2</sup> (B) 2861 cm<sup>2</sup>  
(C) 2618 cm<sup>2</sup> (D) 2681 cm<sup>2</sup>

14 The mean of 100 observations is 50. If one of the observations, 50 is replaced by 150, what is the resulting mean?

- (A) 50.5 (B) 51 (C) 51.5 (D) 52

15 E and F are the midpoints of the sides AB and AC respectively of  $\triangle ABC$ ; G and H are the midpoints of sides AE and AF respectively of the  $\triangle AEF$ . If  $GH = 1.8$  cm, find BC.

- (A) 0.9 cm (B) 3.6 cm (C) 7.2 cm (D) 5.4 cm

16 Which of the following statements is true?

- (A) The ordinate is positive to the right of the origin.  
(B) The ordinate is negative to the left of the origin.  
(C) The ordinate is negative below  $x$ -axis.  
(D) The ordinate is negative above  $x$ -axis.

17 If the product of  $x^2 - 6x + 5$  and  $2x^2 - 7x + 3$  is 0, which of the following is not a value of 'x'?

- (A) 3 (B) 2 (C)  $\frac{1}{2}$  (D) 1

18 A cube of edge 'k' is divided into 'n' equal cubes. What is the edge of the new cube?

- (A)  $\sqrt[3]{nk}$  (B)  $\frac{k}{\sqrt[3]{n}}$  (C)  $\sqrt[3]{nk}$  (D)  $\frac{\sqrt[3]{n}}{k}$

19 If  $y = 3^x$  and 'x' and 'y' are both integers, which of the following is equivalent to  $3^{2x} + 3^x \times 3$ ?

- (A)  $y(y + 3)$  (B)  $y^2 + 3$   
(C)  $3y + 3$  (D)  $3(y + 3)$

- 20 How many positive numbers from 1 to 200 both inclusive are equal to the cube of an integer?  
 (A) 6 (B) 5 (C) 4 (D) 0
- 21 If 'a' and 'b' are real numbers, for what values does the equation  $3x - 5 + a = bx + 1$  have a unique solution 'x'?  
 (A) For all 'a' and 'b'. (B) For no 'a' and 'b'.  
 (C) For  $a \neq 6$ . (D) For  $b \neq 3$ .
- 22 If the height of a cylinder is doubled, by what number must the radius of its base be multiplied so that the resulting cylinder has the same volume as that of the original cylinder?  
 (A) 4 (B)  $\frac{1}{\sqrt{2}}$  (C) 2 (D)  $\frac{1}{2}$
- 23 The width of each of five continuous classes in a frequency distribution is 5 and the lower class-limit of the lowest class is 10. Find the upper class-limit of the highest class.  
 (A) 15 (B) 25 (C) 35 (D) 40
- 24 A square is inscribed in a circle with radius 'r'. What is the probability that a randomly selected point within the circle is not within the square?  
 (A)  $\frac{\pi - 2}{\pi^2}$  (B)  $\frac{\pi - \frac{1}{2}}{\pi}$  (C)  $\frac{\pi - 2}{\pi}$  (D)  $\frac{1 - r}{\pi}$
- 25 In a quadrilateral ABCD, if  $AB = 5$  m,  $BC = 5$  m,  $CD = 6$  m,  $AD = 6$  m and diagonal  $AC = 6$  m, what is its area?  
 (A)  $2(4 + 3\sqrt{3})$  m<sup>2</sup> (B)  $3(4 + 3\sqrt{3})$  m<sup>2</sup>  
 (C)  $5(4 + 3\sqrt{3})$  m<sup>2</sup> (D)  $7(4 + 3\sqrt{3})$  m<sup>2</sup>

- 26 The weights of three objects X, Y and Z measured on three celestial bodies are listed in the box. ( $g$  on the Moon, Jupiter and Mercury are  $1.7 \text{ m s}^{-2}$ ,  $25.4 \text{ m s}^{-2}$  and  $3.8 \text{ m s}^{-2}$  respectively)

Object X on the Moon is 340 N.  
Object Y on Jupiter is 6096 N.  
Object Z on Mercury is 399 N.

Which of the following sequences shows X, Y and Z in ascending order of their masses?

- (A) X, Y, Z (B) Z, X, Y (C) X, Z, Y (D) Y, Z, X

- 27 The initial odometer reading of a cab is 369 km. It travelled for 2 hours and the final odometer reading showed 469 km. Find the approximate average speed of the cab.

- (A)  $14 \text{ m s}^{-1}$  (B)  $11 \text{ m s}^{-1}$   
(C)  $8 \text{ m s}^{-1}$  (D)  $17 \text{ m s}^{-1}$

- 28 Identify the equivalent of 1 N.

- (A)  $10^9 \text{ dyne}$  (B)  $10^7 \text{ dyne}$   
(C)  $10^5 \text{ dyne}$  (D)  $10^{11} \text{ dyne}$

- 29 A bullet of mass 100 g is fired from a gun of mass 20 kg with a velocity of  $100 \text{ m s}^{-1}$ . Identify the velocity of the recoil of the gun.

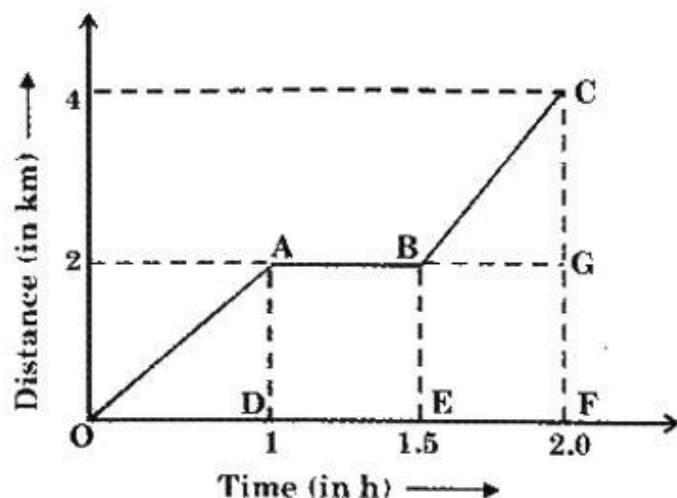
- (A)  $-0.5 \text{ m s}^{-1}$  (B)  $0.10 \text{ m s}^{-1}$   
(C)  $0.15 \text{ m s}^{-1}$  (D)  $-0.20 \text{ m s}^{-1}$

- 30 Which of the given statements is false?

- (A) Work done is negative when a force acts in a direction opposite to the motion of an object.  
(B) Work done by different forces acting on bodies of different masses is equal.  
(C) Work done is positive when a force acts in the direction of the motion of the body.  
(D) Work done is zero when the applied force does not displace an object.

31

Observe the given distance-time graph.



Identify the respective speeds of the body when it moves from O to A and B to C.

- (A)  $2 \text{ km h}^{-1}$ ,  $4 \text{ km h}^{-1}$       (B)  $1 \text{ km h}^{-1}$ ,  $3 \text{ km h}^{-1}$   
 (C)  $3 \text{ km h}^{-1}$ ,  $5 \text{ km h}^{-1}$       (D)  $4 \text{ km h}^{-1}$ ,  $6 \text{ km h}^{-1}$

32

What is the least time interval required to hear a distinct echo?

- (A) 0.3 s      (B) 0.1 s      (C) 0.5 s      (D) 20 s

33

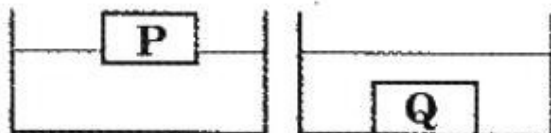
Identify vector quantities from the following.

- (i) Speed
- (ii) Velocity
- (iii) Weight
- (iv) Linear Momentum

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

34

Two materials P and Q are lowered into a trough of liquid as shown.

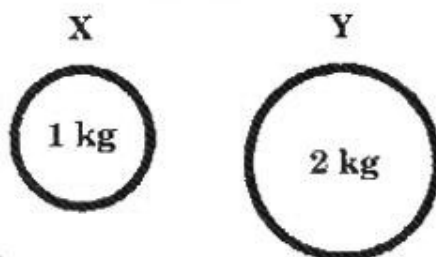


Which of the following combinations is NOT possible when materials P and Q are mixed together and lowered into the trough again?

- (A) (B) (C) (D)

35

X and Y are two iron balls with different masses.



Which of the following statements is correct?

- (A) Y has more inertia than X.
- (B) X has more inertia than Y.
- (C) Both X and Y have the same inertia.
- (D) Both X and Y have no inertia.

36

Which of the given statements is false?

- (A) The distance travelled by a moving body cannot be zero but its final displacement can be zero.
- (B) The final displacement of a body travelling along a zig-zag path is obtained by joining the starting and finishing points.
- (C) The distance travelled by a body is the actual length of the path covered irrespective of the direction in which it travels.
- (D) The final displacement of a body travelling in a zig - zag path is a curved line.

37

A force of 60 N acts on a body which moves it through a distance of 4 m on a horizontal surface. What is the work done, if the direction of force is at an angle of  $60^\circ$  to the horizontal surface?

- (A) 100 J      (B) 120 J      (C) 75 J      (D) 120 N cm

38

A marine survey ship sends a sound wave straight to the sea bed. It detects an echo 4.0 s later. What is the approximate depth of the sea?

- (A) 600 m                      (B) 1500 m  
(C) 3000 m                     (D) 10000 m

39

A 2 cm cubical block of mass 2 kg is lying on the ground. What is the pressure exerted by the block on the ground?

- (A)  $2.4 \times 10^4 \text{ N m}^{-2}$                       (B)  $9.8 \times 10^4 \text{ N m}^{-2}$   
(C)  $4.9 \times 10^4 \text{ N m}^{-2}$                      (D)  $19.6 \times 10^4 \text{ N m}^{-2}$



40

Which of the given forces act on a toy car when we move it on the ground with our hand?

- |                              |                       |
|------------------------------|-----------------------|
| (i) Friction                 | (ii) Gravity          |
| (iii) Reaction of the ground | (iv) Potential energy |

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

41

The mass of a body is  $M$  on the earth's surface. What is the mass of the same body on the moon's surface?

- (A)  $M$                       (B)  $\frac{M}{6}$                       (C) Zero                      (D)  $\frac{M}{2}$

42

A pump can lift water of 150 kg in 15 s, to store it in an overhead tank at a height of 15 m. Find the power of the pump. ( $g = 9.8 \text{ m s}^{-2}$ )

- (A) 1070 W                      (B) 1270 W  
 (C) 1470 W                      (D) 1570 W

43

Which of the following involves Newton's second law of motion?

- (A) When two bodies of unequal masses are acted upon by the same force for the same time, the momentum gained by both the bodies is the same.  
 (B) A body at rest moves in the same direction as that of the applied force.  
 (C) A boy hitting a wall with his hand using muscular force experiences pain.  
 (D) Both (A) and (B)

44

In which part of the ear are sound waves amplified?

- (A) Cochlea    (B) Middle ear    (C) Outer ear    (D) Inner ear

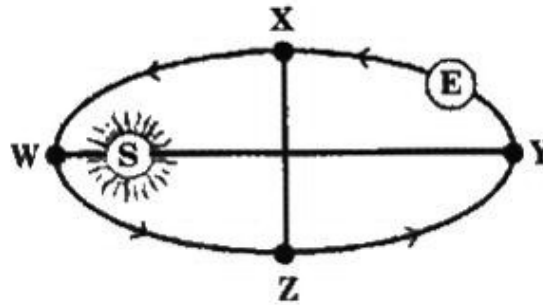
45

Which of the following uses multiple reflections of sound?

- (A) Flute    (B) Jaltarang    (C) Violin    (D) Shehnai

46

The earth rotates around the sun in elliptical orbit as shown in the figure.

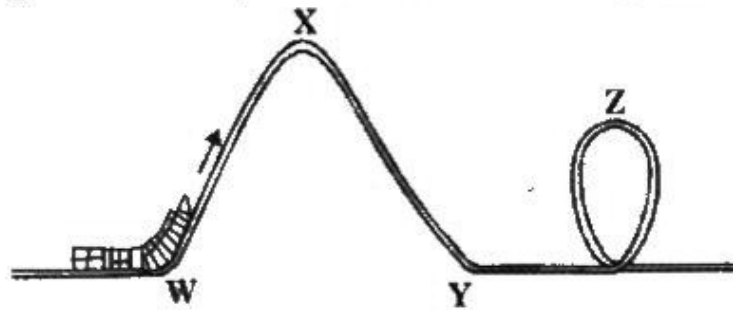


Where is the velocity of the earth the maximum?

- (A) At X
- (B) At Z
- (C) At W
- (D) At Y

47

The path of motion of a roller-coaster is shown in the figure. At the start of the roller-coaster ride, a motor pulls it from point W to X. Although there is no motor to pull it up from point Y to Z, it still moves through the loop by itself.



Identify the energy conversions from Y to Z.

- (A) Electrical energy → Potential energy
- (B) Kinetic energy → Potential energy
- (C) Kinetic energy → Electrical energy
- (D) Potential energy → Kinetic energy

48

Which of the following is an example of uniform circular motion?

- (A) The movement of a seconds hand of a watch
- (B) The movement of a car on highway curves
- (C) The movement of clothes in a dryer of a washing machine
- (D) The movement of passenger cabin on a giant wheel

49

Which of the following help in the communication between two astronauts on the moon?

- (A) Light waves
- (B) Sound waves
- (C) Radio waves
- (D) A face-to-face talk

50 Three different objects of masses  $m_1$ ,  $m_2$  and  $m_3$  are made to fall from rest along three frictionless paths, from the same height. What is the ratio of their speeds to reach the ground?

- (A) 1 : 1 : 1 (B) 3 : 2 : 1  
(C)  $\frac{1}{m_1} : \frac{1}{m_2} : \frac{1}{m_3}$  (D) 1 : 2 : 3

**Class : IX**

**Chemistry**

51 A solution is made by dissolving 60 g of sodium chloride in 360 g of water. Find the mass percentage of the solution.

- (A) 15.76 % (B) 17.56 % (C) 14.28 % (D) 18.36 %

52 Which formula gives the maximum number of electrons in a shell?

- (A)  $n^2$  (B)  $2n^2$  (C)  $3n^2$  (D)  $4n^2$

53 How many free surfaces exist in the case of solids?

- (A) 1 (B) 2 (C) 3 (D) Infinitely many

54 2.8 g of calcium oxide prepared by heating limestone produced 0.8 g of oxygen. Calculate the mass percentage of calcium.

- (A) 71.4 % (B) 61.4 % (C) 81.6 % (D) 91.2 %

55 Which of the following are physical changes?

- (i) Heating of iodine crystals  
(ii) Burning of wood  
(iii) Melting of wax

- (A) Only (i) and (ii) (B) Only (ii) and (iii)  
(C) Only (i) and (iii) (D) Only (ii)

56 At what temperature on the Kelvin scale does liquid nitrogen boil? (Its boiling point is  $-196^\circ\text{C}$ .)

- (A) 469 K (B) 237 K (C) 330 K (D) 77 K

- 57 Which of these is a pair of isobars?
- (A)  ${}^{12}_6\text{C}$ ,  ${}^{16}_8\text{O}$  (B)  ${}^{13}_6\text{C}$ ,  ${}^{14}_6\text{C}$   
 (C)  ${}^{40}_{20}\text{Ca}$ ,  ${}^{40}_{18}\text{Ar}$  (D)  ${}^{35}_{17}\text{Cl}$ ,  ${}^{37}_{17}\text{Cl}$
- 58 What is the atomic radius of a hydrogen atom?
- (A) 0.00925 nm (B) 0.0185 nm  
 (C) 0.037 nm (D) 0.074 nm
- 59 In which of the following is centrifugation method employed?
- (A) Oil, Dairy and Sugar industries  
 (B) Textile industry  
 (C) Nuclear plant  
 (D) Rubber industry
- 60 Which of the following is added to LPG to detect its leakage?
- (A) Naphthalene (B) Methyl ethyl sulphide  
 (C) Benzene (D) Calcium
- 61 What is the mass of one mole of cane sugar?  
 (Formula of cane sugar is  $\text{C}_{12}\text{H}_{22}\text{O}_{11}$ .)
- (A) 342 g (B) 180 g (C) 360 g (D) 240 g
- 62 Which of the following elements has an isotope that does not have a neutron in its nucleus?
- (A) Helium (B) Hydrogen  
 (C) Beryllium (D) Magnesium
- 63 What is the fifth state of matter called?
- (A) Rutherford - Einstein Condensate  
 (B) Bhaba - Einstein Condensate  
 (C) Bohr - Einstein Condensate  
 (D) Bose - Einstein Condensate
- 64 Find the element that has both minimum and maximum valencies.
- (A) Mg (B) Ne (C) P (D) Cl

65 In which of these applications are isotopes used?

- (i) Uranium as fuel in nuclear reactors
- (ii) Iodine in the treatment of goitre
- (iii) Cobalt in the treatment of cancer
- (iv) Laboratory preparation of oxygen

- (A) Only (i) and (ii)      (B) Only (ii) and (iii)  
(C) Only (i), (ii) and (iii)      (D) Only (i) and (iii)

66 Which substances are incorrectly placed in the following table?

	Liquid-Liquid mixtures	Lighter liquid	Heavier liquid
(A)	Olive oil and water	Olive oil	Water
(B)	Benzene and Carbon tetrachloride	Benzene	Carbon -tetrachloride
(C)	Kerosene oil and water	Water	Kerosene oil
(D)	Alcohol and water	Alcohol	Water

67 Identify the factors affecting the rate of evaporation.

- (i) Temperature and humidity
- (ii) Amount of the liquid
- (iii) Wind speed
- (iv) Surface area exposed to the atmosphere

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

68 What is the mass of 1 mole of  $\text{FeSO}_4 \cdot 7\text{H}_2\text{O}$ ?

- (A) 69.5 g      (B) 278 g      (C) 34.75 g      (D) 139 g

69 Identify the INCORRECT option.

	Type of mixture	Solute	Solvent	Solution
(A)	Solid - Solid	Tin	Copper	Bell metal
(B)	Liquid - Gas	Ammonia	Water	Ammonium hydroxide
(C)	Liquid - Liquid	Water	Acetic acid	Vinegar
(D)	Gas - Gas	Oxygen	Nitrogen	Air

70

Identify the isotopes of carbon.

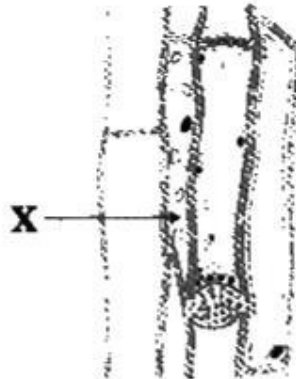
- (A)  ${}^{12}_6\text{C}$ ,  ${}^{16}_6\text{C}$  (B)  ${}^{12}_6\text{C}$ ,  ${}^{14}_6\text{C}$  (C)  ${}^{24}_6\text{C}$ ,  ${}^{16}_6\text{C}$  (D)  ${}^{14}_6\text{C}$ ,  ${}^{16}_6\text{C}$

**Class : IX**

**Biology**

71

The given diagram shows a type of vascular tissue found in a tree trunk.



What is the part labelled X?

- (A) Sieve tube (B) Sieve plate  
(C) Companion cell (D) Sieve pore

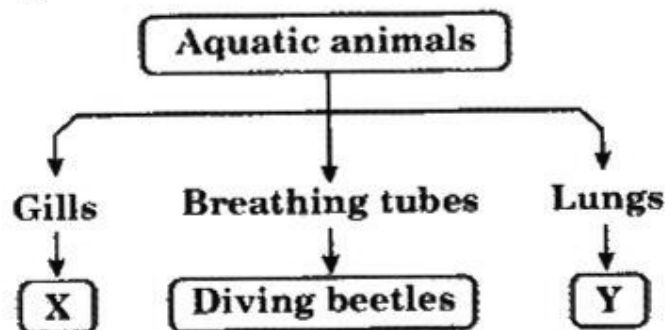
72

Which of the following animals has exoskeleton made of chitin?

- (A) Starfish (B) Snail (C) Cockroach (D) Snake

73

Some aquatic animals are grouped according to the way they breathe.



Identify animals X and Y.

	X	Y
(A)	Tadpole	Dolphin
(B)	Whale	Fish
(C)	Dolphin	Whale
(D)	Frog	Fish

74

Which of the following is true about the sites of synthesising and destroying sites of erythrocytes in an adult human being?

	Synthesising site	Destroying site
(A)	Bone marrow	Stem cells
(B)	Liver	Spleen
(C)	Bone marrow	Spleen
(D)	Lymph nodes	Bone marrow

75

Which of the following help to keep a healthy cardiovascular system?

- (i) Avoid exercising
- (ii) Maximise sodium intake
- (iii) Minimise high cholesterol foods
- (iv) Eat more fruits and vegetables

- (A) Only (i) and (ii)                      (B) Only (ii) and (iii)  
 (C) Only (i) and (iv)                      (D) Only (iii) and (iv)

76

What is the feature of the fish that helps it overcome resistance during its movement in water?

- (A) Having a small head.  
 (B) Having hollow bones.  
 (C) Having a streamlined body.  
 (D) Having a fluid in the body cavity.

77

In which of the following animals does respiration occur without any respiratory organ?

- (A) Snake    (B) Fish    (C) Prawn    (D) Earthworm

78

I am an animal cell that needs to travel fast from one place to another in an organism. I need to be able to travel through small spaces quickly. I do not have a nucleus. My function is to distribute a gas essential for life. Who am I?

- (A) Monocyte                      (B) Leucocyte  
 (C) Erythrocyte                      (D) Thrombocyte

79

Which of the following will result in loss of soil fertility?

- (i) Crop rotation
- (ii) Shifting cultivation
- (iii) Excessive use of chemical fertilisers

- (A) Only (i) and (ii)                      (B) Only (i) and (iii)  
(C) Only (ii) and (iii)                    (D) (i), (ii) and (iii)

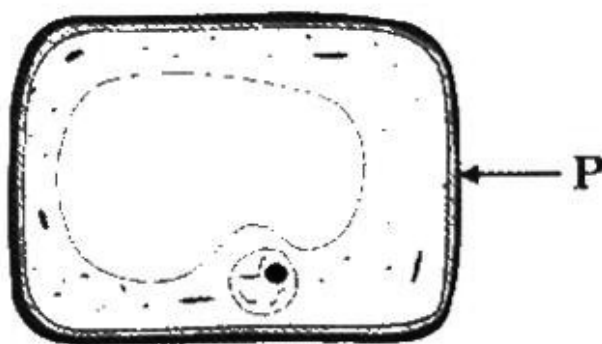
80

Who proposed the cell theory?

- (A) Schleiden and Schwann    (B) Watson and Crick  
(C) Darwin and Wallace        (D) Mendel and Morgan

81

Look at the given cell.



Identify the function of the part labelled P.

- (A) It forms the cell plate during cell division.  
(B) It controls all the activities of the cell.  
(C) It contains many small parts.  
(D) It prevents desiccation of the cell.

82

Which of the following includes the production and management of fish?

- (A) Aquaculture                      (B) Pisciculture  
(C) Horticulture                      (D) Sericulture

83

What is the function of flame cells in platyhelminthes?

- (A) To dissolve the wastes.    (B) To produce the wastes.  
(C) To excrete the wastes.    (D) To burn the wastes.



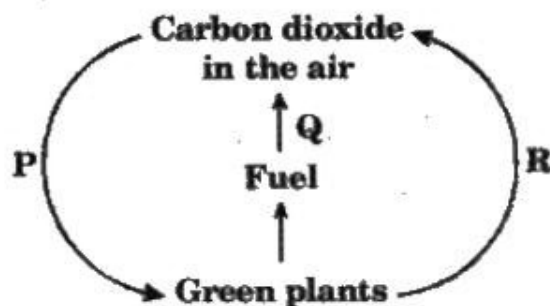
84

**How do animals get their nitrogen?**

- (A) By absorbing nitrogen gas through their skin.
- (B) By eating carbohydrates like sugars and starch.
- (C) From nitrates in their drinking water.
- (D) By eating plants and other animals.

85

**The figure given shows a part of the carbon cycle.**



**Which of the following processes is represented by P?**

- (A) Respiration
- (B) Photosynthesis
- (C) Combustion
- (D) Transpiration

86

**Abhi observed the following cell parts of two different cells under a microscope. He recorded his observation in the table given.**

Parts of cell	Cell X		Cell Y	
	Present	Absent	Present	Absent
Cell wall	✓			✓
Cytoplasm	✓		✓	
Nucleus	✓		✓	
Cell membrane	✓		✓	
Chloroplast		✓		✓

**Identify X and Y.**

	X	Y
(A)	Animal cell	Plant cell
(B)	Plant cell	Animal cell
(C)	Fungal cell	Animal cell
(D)	Animal cell	Fungal cell

87

Which of the following describes about the first line of defense?

- (A) It involves lymphocytes in the blood.
- (B) It involves phagocytic white blood cells.
- (C) It involves skin and mucous membrane.
- (D) It produces antibodies that destroy bacteria and viruses.

88

What do the conducting tissues of a plant have?

- (i) Xylem
- (ii) Phloem
- (iii) Cortex
- (iv) Epidermis

- (A) Only (i) and (ii)
- (B) Only (ii) and (iv)
- (C) Only (i) and (iii)
- (D) Only (iii) and (iv)

89

Which of the following always involve the process of diffusion in living things?

- (i) The movement of minerals from the soil into root hair cells.
- (ii) The movement of water into the cells of living things.
- (iii) The movement of dissolved oxygen from the surrounding water into an amoeba.
- (iv) The movement of carbon dioxide from the air into leaf cells.

- (A) Only (i) and (ii)
- (B) Only (i) and (iii)
- (C) Only (ii) and (iii)
- (D) Only (iii) and (iv)

90

Lysosomes are reservoirs of

- (A) fat.
- (B) RNA.
- (C) hydrolytic enzymes.
- (D) cellulose.

**Class : IX**

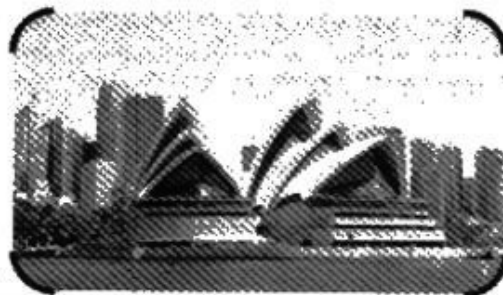
**General Awareness**

91

Which pieces are the most numerous at the start of a chess game?

- (A) Rook
- (B) Knight
- (C) Pawn
- (D) Bishop

- 92 **What does 'to take five' mean?**  
(A) To take only 5 days off from work.  
(B) To stop working for a few minutes.  
(C) To take 5 hours to do something.  
(D) To do a job/task 5 times a day.
- 93 **Which word is used to describe a person who is always right or never incorrect?**  
(A) Infallible (B) Efficient (C) Intelligent (D) Incredible
- 94 **Which of the following is the 'Fear of darkness'?**  
(A) Darkphobia (B) Acrophobia  
(C) Achluophobia (D) Androphobia
- 95 **What is the middle name of Sachin Tendulkar?**  
(A) Ravi (B) Ramesh (C) Ramakant (D) Rishi
- 96 **Which of these states has a separate winter and summer capital?**  
(A) Punjab (B) Rajasthan  
(C) Jammu and Kashmir (D) Himachal Pradesh
- 97 **In the context of space exploration, what does the letter 'P' in PSLV stand for?**  
(A) Planet (B) Polar (C) Power (D) Point
- 98 **Who was (posthumously) awarded with the Lifetime achievement award in 2013 Filmfare awards?**  
(A) Manna Dey (B) Rajesh Khanna  
(C) Bhupen Hazarika (D) Yash Chopra
- 99 **Who is the author of the patriotic song "Sare Jahan Se Achcha"?**  
(A) Akbar Ali Khan (B) Muhammad Iqbal  
(C) Muhammad Ali (D) Naushad Ali
- 100 **Identify the given structure.**



- (A) Lotus Temple (B) Opera House  
(C) Burj Dubai (D) Sun Temple

●●● ————— **Key for NSTSE-2014** ————— ●●●

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