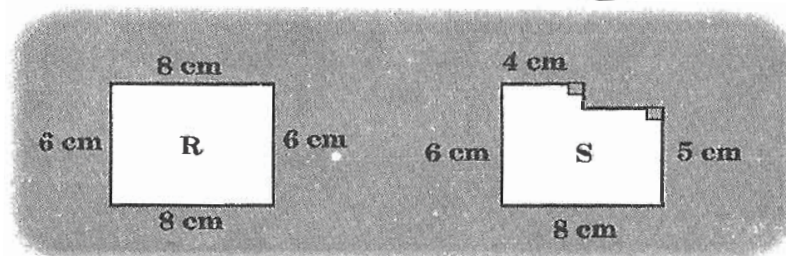


## CLASS : VII

## MATHEMATICS

1. A rectangular field is 80 m long and 60 m wide. If fence posts are placed at the corners and are 10 m apart along the 4 sides of the field, how many posts are needed to completely fence the field?  
(A) 24            (B) 27            (C) 28            (D) 29
2. Two numbers have a sum of 32. If one of the numbers is -36, what is the other number?  
(A) 68            (B) -4            (C) 4            (D) 72
3. Kalyan cut rectangle "R" from a sheet of paper. A smaller rectangle is then cut from the large rectangle "R" to produce figure "S". In comparing R to S, we have:



- (A) the area and perimeter both decrease
  - (B) the area decreases and the perimeter increases
  - (C) the area and perimeter both increase
  - (D) the area decreases and the perimeter stays the same
4. Madan picks three different digits from the set  $\{1, 2, 3, 4, 5\}$  and forms a mixed number by placing the digits in the spaces of  $\square \frac{\square}{\square}$ . The fractional part of the mixed number must be less than 1. (For example,  $4\frac{2}{3}$ ). What is the difference between the largest and the smallest possible mixed number that can be formed?  
(A)  $4\frac{7}{20}$             (B)  $4\frac{3}{10}$             (C)  $4\frac{9}{20}$             (D)  $4\frac{3}{5}$

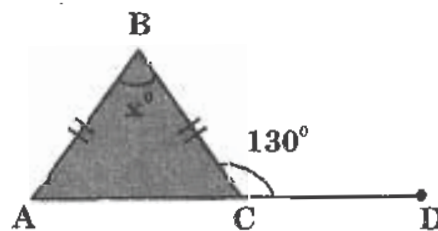
5. If the numbers  $\frac{4}{5}$ , 81% and 0.801 are arranged from smallest to largest, the correct order is:

- (A)  $\frac{4}{5}$ , 81%, 0.801                      (B) 81%, 0.801,  $\frac{4}{5}$   
 (C) 0.801,  $\frac{4}{5}$ , 81%                      (D)  $\frac{4}{5}$ , 0.801, 81%

6. The first 9 positive odd integers are placed in the magic square so that the sum of the numbers in each row, column and diagonal are equal. Find the value of A + E.

A	1	B
5	C	13
D	E	3

- (A) 32                      (B) 28                      (C) 26                      (D) 24
7. A prime number is called a "Superprime", if: "doubling it, and then subtracting 1, results in another prime number". The number of Superprimes less than 15 are:
- (A) 2                      (B) 3                      (C) 4                      (D) 5
8. The average of a list of 10 numbers is "0". If 72 and -12 are added to the list, the new average will be:
- (A) 0                      (B) 5                      (C) 6                      (D) 60
9. In the diagram, the value of 'x' is:

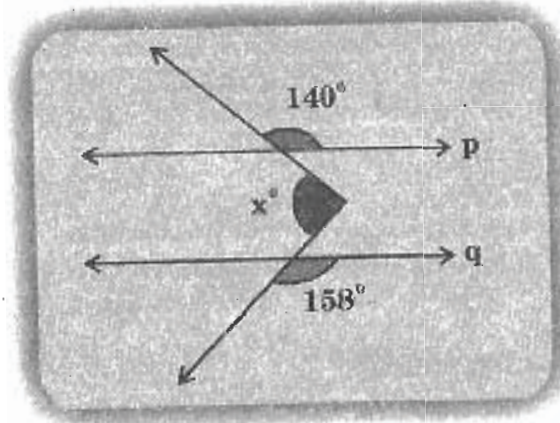


- (A)  $100^\circ$                       (B)  $65^\circ$                       (C)  $80^\circ$                       (D)  $70^\circ$

10. If  $C = \frac{x-a}{x-b}$ , then  $x =$  \_\_\_\_\_

- (A)  $\frac{bC-a}{C-1}$       (B)  $\frac{C-a}{C-b}$       (C)  $\frac{C+a}{C+b}$       (D)  $\frac{1-C}{a-bC}$

11. Assume  $p \parallel q$  in the figure shown. Then 'x' equals:

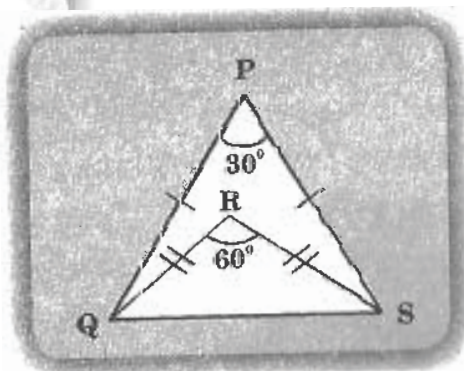


- (A)  $18^\circ$       (B)  $22^\circ$   
 (C)  $62^\circ$       (D) cannot be determined

12. The sides of a triangle have lengths 9, 13 and  $k$ , where ' $k$ ' is an integer. For how many values of ' $k$ ' is the triangle obtuse?

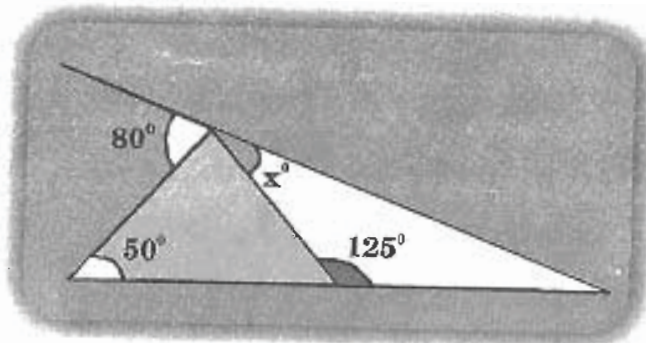
- (A) 11      (B) 12      (C) 15      (D) 6

13. In the diagram, what is the measure of  $\angle PQR$ ?



- (A)  $45^\circ$       (B)  $30^\circ$       (C)  $65^\circ$       (D)  $15^\circ$

14. The value of 'x' in the given figure is:



- (A)  $15^\circ$       (B)  $20^\circ$       (C)  $25^\circ$       (D)  $30^\circ$

15. The mode of a set of observations is the value which:

- (A) occurs most frequently  
 (B) is central  
 (C) is between maximum and minimum  
 (D) none of these

16. Which of the following may lie outside or on the triangle?

- (i) Circumcentre  
 (ii) Centroid  
 (iii) Orthocentre  
 (iv) Incentre

- (A) (i), (ii) and (iii) only      (B) (i) and (ii) only  
 (C) (i) and (iii) only      (D) All the given

17. Ratio of 250 ml to 2 l is:

- (A) 250 : 2      (B) 1 : 125      (C) 1 : 8      (D) 250 : 200

18. A sum of Rs. 1600 lent at S.I. of 12.5% per annum will become twice in:

- (A) 8 years      (B) 16 years      (C) 12 years      (D) 20 years

19. What property is shown in the equation below?

$$\frac{-7}{5} + \left( \frac{2}{-11} + \frac{-13}{25} \right) = \left( \frac{-7}{5} + \frac{2}{-11} \right) + \frac{-13}{25}$$

(A) Closure (B) Commutative (C) Associative (D) Identity

20. Which pair of operations will make the equation below true when inserted into the blank spaces in the order shown?

$$2\frac{3}{10} \quad \underline{\hspace{1cm}} \quad 1.5 \quad \underline{\hspace{1cm}} \quad 2 = 1.8$$

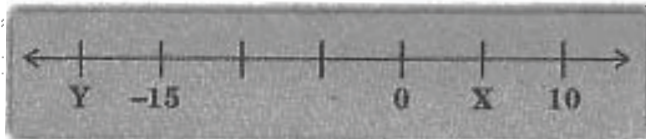
(A) - and + (B)  $\times$  and + (C) + and - (D)  $\times$  and -

21. Find the total value of P and Q.

$$2.9 + P + Q = 9 - 1.8 - 1.32$$

(A) 2.18 (B) 2.98 (C) 3.42 (D) 3.62

22.



The diagram above shows a number line.

The value of  $X - Y$  is:

(A) -15 (B) -10 (C) 15 (D) 25

23. A man purchased two articles for Rs. 3000 each, by selling those he gains 20% on the one and loses 20% on the other. Find the gain or loss percent on the whole transaction.

(A) 4% loss (B) 4% gain  
(C) no profit, no loss (D) 20% gain

24. The complementary angle of  $14^\circ$  is:

(A)  $90^\circ$  (B)  $76^\circ$  (C)  $41^\circ$  (D)  $86^\circ$

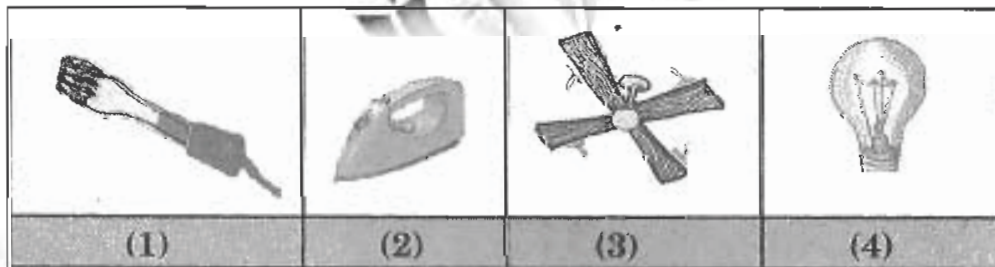
25. The identity element w.r.t. addition of integers is:

(A) -1 (B) 1 (C) 0 (D) 100

## CLASS : VII

## PHYSICS

26. Akhil left his fully inflated balloon lying near a fire. After a short while, it burst. This is probably because:
- (A) the balloon has shrunk  
 (B) the balloon caught fire  
 (C) the air in the balloon has expanded  
 (D) the air in the balloon has compressed
27. Which of the following statements is NOT correct regarding motion?
- (A) Curvilinear and rectilinear motion together are referred to as translatory motion  
 (B) In a rotational motion the body stays in the same place with respect to time  
 (C) All periodic motions are oscillatory by nature  
 (D) A single body can exhibit more than one type of motion at the same time
28. Which of the following appliances doesn't use the heating effect of current?



- (A) 1      (B) 2      (C) 3      (D) 4
29. Keeping the incident ray fixed, if a plane mirror is rotated through an angle  $\theta$  about an axis lying in its plane, the reflected ray turns through angle:
- (A)  $\theta^\circ$       (B)  $2\theta$       (C)  $\theta/2$       (D)  $\theta/4$
30. Which of these is NOT an insulating material?
- (A) Sawdust      (B) Wool  
 (C) Aluminium foil      (D) Glass

31. What will be the type of motion by a ball, rolling down an inclined plane?

- (A) Rotational
- (B) Rotational and linear
- (C) Translatory
- (D) Circular and linear



32. An electric bulb gives us light due to:

- (A) heating effect of current
- (B) magnetic effect of current
- (C) chemical effect of current
- (D) none of the above

33. A convex mirror is used to form an image. Which of the following statements is NOT correct?

- (A) The image lies between pole and focus
- (B) The image is diminished in size
- (C) The image is erect
- (D) The image is real

34. At night land breezes blow towards the sea. This is because:

- (A) the land is warmer than the sea
- (B) the sea is warmer than the land
- (C) the air over the land tends to move towards open space
- (D) there is more air over the land than over the sea

35. Earth appears to be stationary to us because:

- (A) it is in continuous motion around the Sun
- (B) it is rotating about its own axis
- (C) there is no relative motion between the Earth and us
- (D) all of the above

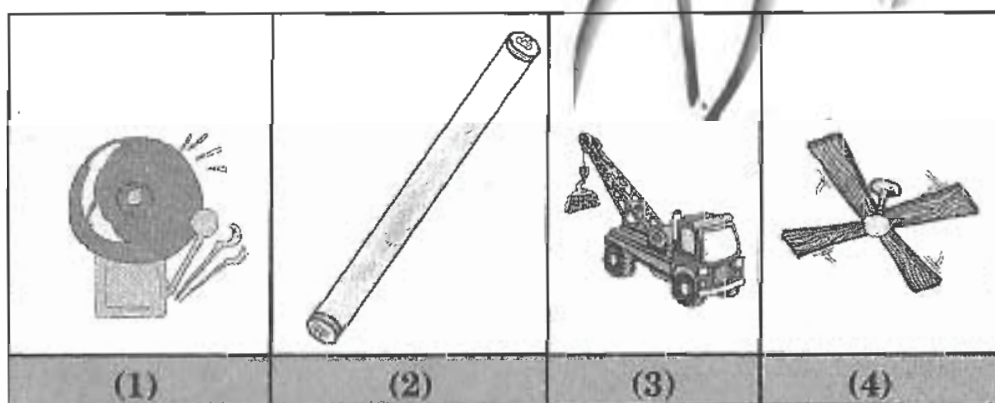
36. 'Element' in an electrical appliance is essentially:

- (A) a coil of wire
- (B) an electromagnet
- (C) an insulating device
- (D) a safety device, e.g., fuse

37. How many letters of English alphabet in which the image formed in a plane mirror appear exactly like the letter itself?

- (A) 4
- (B) 8
- (C) 9
- (D) 11

38. On a hot day, it is more suitable to wear white-coloured clothes than dark coloured clothes because white coloured clothes are:
- (A) poor absorbers of heat      (B) good radiators of heat  
(C) good insulators of heat      (D) all the given
39. The difference between oscillatory and vibratory motion is that, in the later:
- (A) the body moves as a whole  
(B) the body doesn't move as a whole  
(C) the body does to and fro motion  
(D) the body does a repetitive motion
40. Which one of the following electrical appliances doesn't use the magnetic effects of current?



- (A) 1      (B) 2      (C) 3      (D) 4

41. Match the items given in column I with those in column II

Column I	Column II
a. a plane mirror	i. Used as a magnifying glass
b. a convex mirror	ii. Can form image of objects spread over a large area
c. a convex lens	iii. Used by dentists to see enlarged image of teeth
d. a concave mirror	iv. Image is erect and of the same size as object
e. a concave lens	v. The image is erect and smaller than object

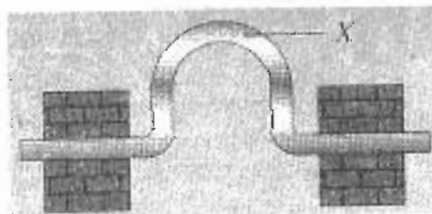
- (A) a - i, b - iii, c - ii, d - iv, e - v      (B) a - iv, b - ii, c - i, d - iii, e - v  
(C) a - iv, b - iii, c - ii, d - v, e - i      (D) a - iv, b - i, c - iii, d - ii, e - v



42. **Why mercury is used in thermometers?**
- (A) It is cheap  
 (B) It is safe to use  
 (C) It expands uniformly when heated  
 (D) It is a poor conductor of heat
43. **Mahesh noted down the odometer reading of his car at different times of journey during his move from place A to place B. What was the average speed of his car?**

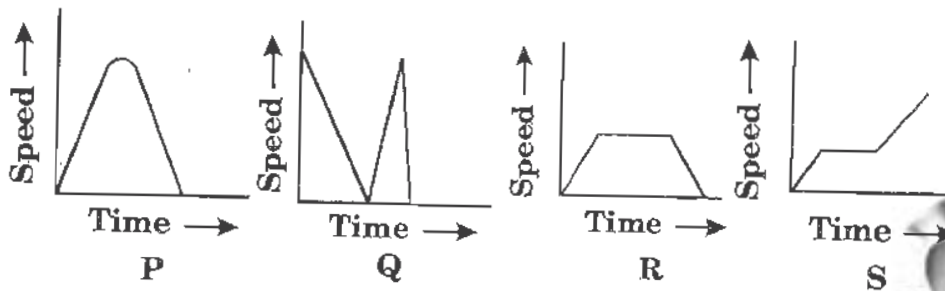
Time	Odometer Reading
9.00 A.M	25550 km
9.30 A.M	25585 km
10.00 A.M	25645 km
10.30 A.M	25700 km
11 A.M	25720 km

- (A) 75 km/hr (B) 85 km/hr (C) 90 km/hr (D) 95 km/hr
44. **A convex lens is used to form an image on the screen. If the upper half of the lens is covered by a piece of black cloth, what will happen to the image?**
- (A) Half of image will disappear (B) Complete image will disappear  
 (C) Complete image will be intact (D) Image will become less bright
45. **The figure given below shows part of a metal pipe used for carrying hot water. What is the function of structure X?**



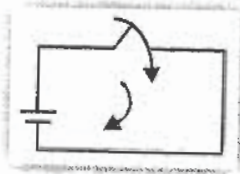
- (A) Prevents the pipe from expanding  
 (B) Makes the pipe easier to be repaired  
 (C) Makes the pipe easier to be installed  
 (D) Allows the pipe to expand without breaking

46. Which of the following graphs shows correctly the motion of a ball being thrown up and then coming down?

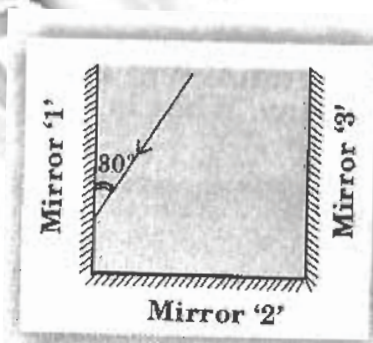


- (A) P      (B) Q      (C) R      (D) S
47. Current flows in a closed circuit because of constant potential difference across the two terminals of the cell. This is possible because of the conversion of:

- (A) electrical to mechanical energy  
 (B) electrical to chemical energy  
 (C) mechanical to electrical energy  
 (D) chemical to electrical energy

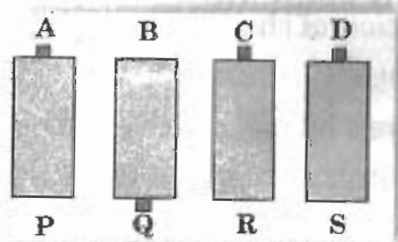


48. Two plane mirrors are kept at right angles and a beam of light is made incident on mirror '1' as shown. If a third mirror is now placed at an angle  $90^\circ$  to the second mirror (mirror 2) what will be the angle of reflection of the reflected ray from mirror 3.



- (A)  $30^\circ$   
 (B)  $45^\circ$   
 (C)  $60^\circ$   
 (D) The reflected ray from mirror '2' will be parallel to the surface of mirror '3'

49. Four cells are fixed on a board as shown. How will you connect the terminals with wires to make a battery of four cells?



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

50. Spherical mirrors are constructed from:

- (A) solid sphere (B) hollow sphere  
 (C) plane surface (D) polished plane surface and then curved

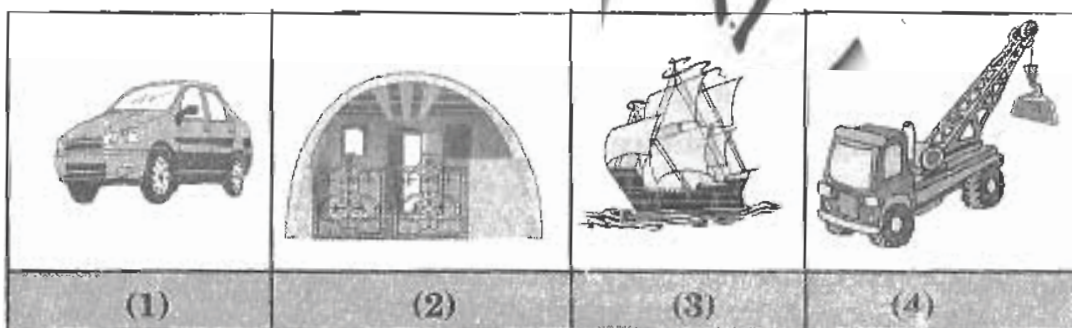
## CLASS : VII

## CHEMISTRY

51. Milk contains:

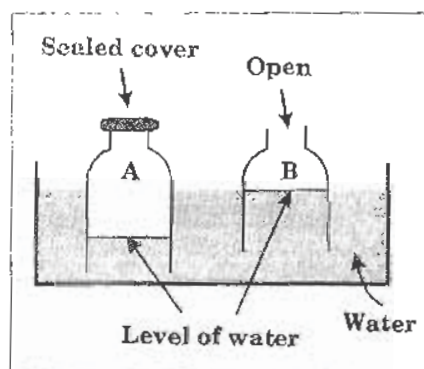
- (A) acid (B) base (C) salt (D) all of the above

52. Which of the following suffers maximum damage due to rusting of iron?



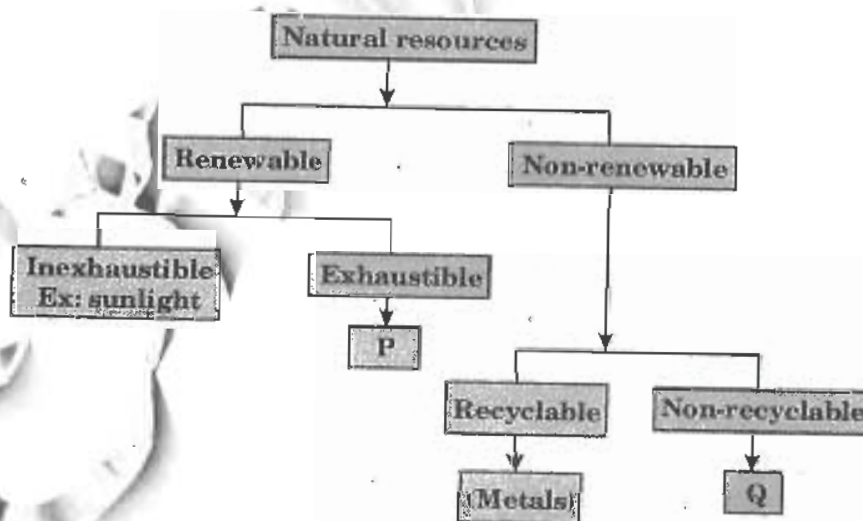
- (A) 1 (B) 2 (C) 3 (D) 4

53. Two plastic bottles with their bottoms cut off are pushed into a trough of water as shown in the figure. Level of water in bottle 'A' will be less than level of water in bottle 'B'. This is due to the fact that:



- (A) water occupies space  
 (B) atmospheric pressure on A is more than that of B  
 (C) water takes the shape of the container  
 (D) air occupies space

54. Wind currents are generated across the globe because of:
- rotation of the Earth
  - change in season
  - uneven heating between the equator and poles
  - gravitational pull of the Sun
55. Sunidhi was asked by her teacher to prepare a dilute sulphuric acid from concentrated sulphuric acid. What should she do?
- Add water to the acid
  - Add acid to the water
  - Add a base to the concentrated acid
  - Add an alkali to the concentrated acid
56. Which of the following changes caused by heat is irreversible?
- Change in size and temperature
  - Change in state
  - Change in colour
  - Change in substance
57. The following figure shows the classification of natural resources. What are P and Q respectively?



- Water and petroleum
- Living organism and plastic
- Soil and wind
- Moonlight and coal

58. In which of the following examples compressed air is NOT being used to do the work?
- (A) Shooting an air gun
  - (B) Tyres of a vehicle
  - (C) Floating of a heavy ship
  - (D) Use of a syringe
59. The only base which doesn't have a metal in its molecule is:
- (A) NaOH (Sodium hydroxide)
  - (B)  $\text{NH}_4\text{OH}$  (Ammonium hydroxide)
  - (C)  $\text{Mg}(\text{OH})_2$  (Magnesium hydroxide)
  - (D)  $\text{Ca}(\text{OH})_2$  (Calcium hydroxide)
60. Which of the following terms is NOT associated with ground water?
- (A) Water table
  - (B) Infiltration
  - (C) Aquifer
  - (D) Rain water
61. Read the following statements carefully and then select the correct answer.

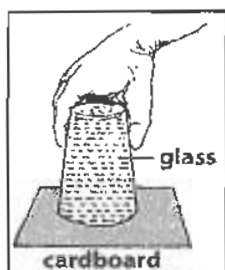
1. An iron ball which can pass through a ring easily may not do so when heated
2. When seeds are soaked in water, they absorb water and grow bigger

- (A) Both 1 & 2 indicate physical change
  - (B) Both 1 & 2 indicate chemical change
  - (C) Statement 1 shows physical change while statement 2 shows chemical change
  - (D) Statement 1 shows chemical change while statement 2 shows physical change
62. Which of the following statements is NOT true?
- (A) Antacids are bases
  - (B) A salt is neither acidic nor basic
  - (C) Phenolphthalein is an indicator
  - (D) All bases are alkalis but all alkalis are not bases
63. Which of the following is a physical change?

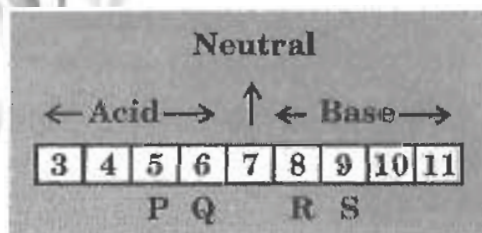
- (A) The rusting of iron nails (B) The burning of diesel  
 (C) The evaporation of alcohol (D) The heating of iron with sulphur

64. Observe the figure given below.

Which statement below best explains why the cardboard does not fall?



- (A) The wet cardboard sticks to the glass  
 (B) Atmospheric pressure acts equally on the glass and on the cardboard  
 (C) The force of gravity pulling the cardboard is negligible  
 (D) Atmospheric pressure acts upwards on the cardboard
65. Convection current is caused by:
- (A) the revolution of the Earth around the Sun  
 (B) the rotation of the Earth around itself  
 (C) the heat on the surface of the Earth  
 (D) none of these
66. The pH scale of acids and bases is given below.



Which of the following mixtures can produce a neutral solution?

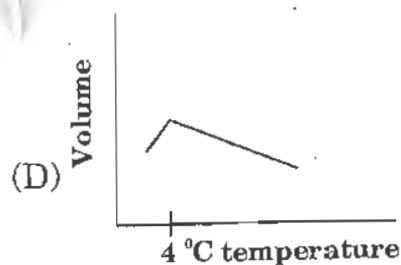
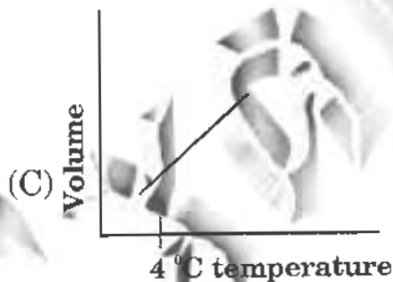
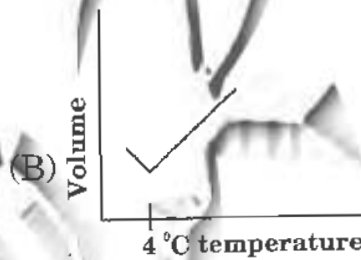
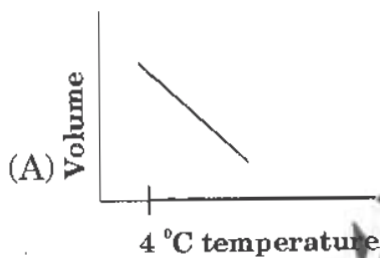
- (A) P and Q (B) P and R  
 (C) R and S (D) all of these
67. Which property of water makes it an efficient coolant?

- (A) High density  
(B) High specific heat  
(C) High boiling point  
(D) High solubility

68. Seema took two balloons. She has blown one balloon with her mouth. She filled another balloon with the vapours coming out of boiling water. When the balloons are released she observed that the balloon with the hot vapours raised to more height than the other balloon. What can she learn from this experiment?

- (A) Hot air has more weight than the cold air  
(B) Boiling water gives energy to the balloon  
(C) Air likes hot balloons  
(D) Hot air has less weight and rises more height

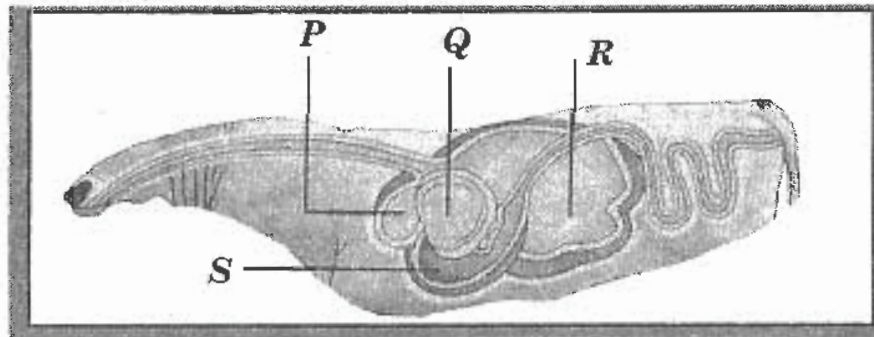
69. Which of the following correctly shows the expansion of water with rise in temperature?



70. Which of the following statements is NOT true?

- (A) Increased wind speed is accompanied by a reduced air pressure  
(B) A thunder storm is accompanied by lightning  
(C) A cyclone is also known as a typhoon  
(D) The eye of a cyclone is the area with very high pressure

71. How does photosynthesis help to maintain the percentage of oxygen and carbon dioxide in the atmosphere?
- (A) By giving off carbon dioxide and absorbing oxygen  
 (B) By giving off oxygen and absorbing carbon dioxide  
 (C) By releasing oxygen and carbon dioxide  
 (D) By absorbing oxygen and carbon dioxide
72. The figure below shows the four-chambered stomach of a ruminant. Which of the labels P, Q, R or S represents the second chamber?



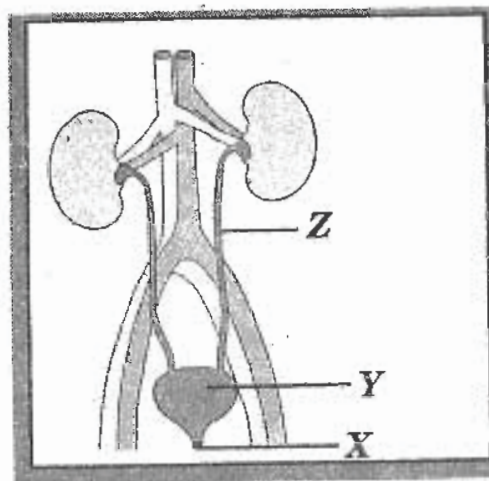
- (A) P                      (B) Q                      (C) R                      (D) S
73. Plasma in the blood transports:

I	waste substances
II	oxygen
III	carbon dioxide
IV	digested food

- (A) I and II only                      (B) I, II and III only  
 (C) I, III and IV only                      (D) All of these
74. What is the type of relationship between a human and a roundworm in the human body?
- (A) Mutualism                      (B) Parasitism  
 (C) Symbiosis                      (D) Commensalism
75. Which of the following factors is NOT considered as a part of the physical environment?
- (A) Temperature    (B) Oxygen    (C) Moisture    (D) Plants



76. The following figure shows the human urinary system. Which of the following options concerning X, Y and Z is correct?



	X	Y	Z
(A)	Ureter	Urethra	Urinary bladder
(B)	Ureter	Urinary bladder	Urethra
(C)	Urinary bladder	Ureter	Urethra
(D)	Urethra	Urinary bladder	Ureter

77. The following statements describe how the transport system in a plant works.

*P - Xylem tubes carry water and mineral salts to other parts of the plant*

*Q - The leaves make food in the presence of sunlight*

*R - The leaves receive water and mineral salts*

*S - Phloem tubes transport food to other parts of the plant*

*T - Root hairs absorb water and mineral salts from the soil*

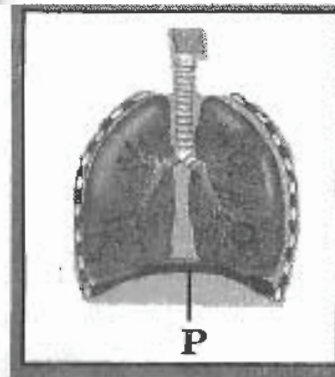
Which of these is a correct sequence?

- (A) P → T → Q → R → S (B) T → P → R → Q → S  
 (C) P → R → Q → S → T (D) R → Q → P → S → T

78. Which of the following adaptations enable a penguin to swim?  
 (A) Flippers (B) Webbed feet  
 (C) Streamlined body shape (D) All of these
79. The organisms given below can be classified into one class. This is because they:



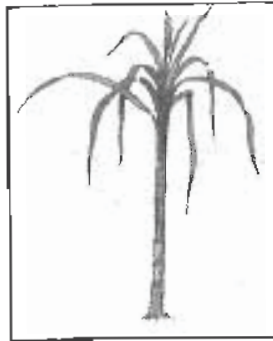
- (A) do not have flowers  
 (B) reproduce by spores  
 (C) live in shady places  
 (D) all of these
80. Figure given below shows the human respiratory system. What will happen when structure P relaxes and curves upwards?



- (A) Air is forced out of the lungs  
 (B) The rib cage goes up and outward  
 (C) The volume of the thoracic cavity increases  
 (D) Air pressure inside the thoracic cavity decreases

81. While chopping some onions, Mrs. Geeta accidentally cut her finger with the knife and blood started flowing out of the cut. This blood came directly from the:
- (A) arteries in her arm  
 (B) capillaries in her finger  
 (C) skin on her finger  
 (D) veins in her wrist

82.

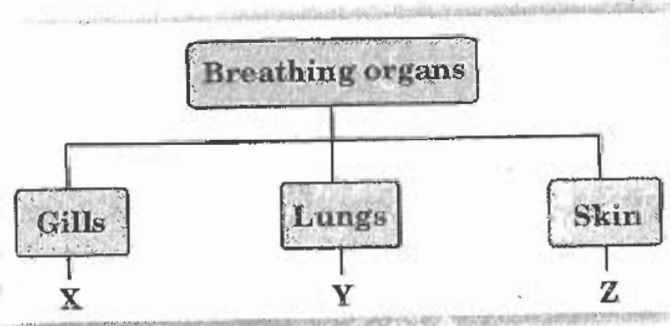


Which of the following plants reproduce in the same way as the plant shown in the figure given above?

- I Begonia
- II Rose
- III Hibiscus

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

83. The classification table below shows how different organisms breathe.



Which of these are correctly represented by X, Y and Z?

- | X             | Y           | Z         |
|---------------|-------------|-----------|
| (A) Tadpole   | Whale       | Earthworm |
| (B) Fish      | Whale       | Cockroach |
| (C) Crocodile | Shark       | Toad      |
| (D) Prawn     | Grasshopper | Earthworm |

84. Which of these is a correct sequence of steps in the processing of wool?

- (A) Shearing → scouring → sorting → rolling → drying → dyeing  
 (B) Shearing → scouring → sorting → drying → dyeing → rolling  
 (C) Scouring → sorting → shearing → drying → dyeing → rolling  
 (D) Shearing → sorting → scouring → drying → rolling → dyeing

85. Study the characteristics given below.

P – A thick walled vessel that carries oxygenated blood

Q – A thin walled vessel that carries deoxygenated blood

R – Very small vessels, linking P with Q

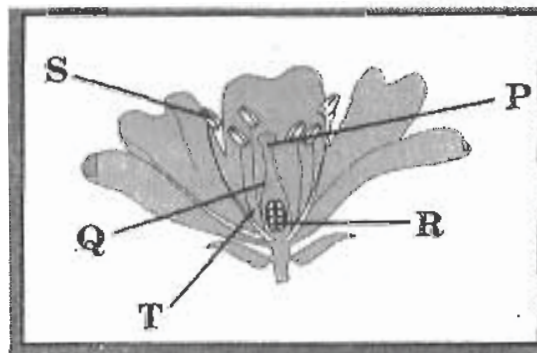
What are P, Q and R?

	Artery	Capillary	Vein
(A)	R	P	Q
(B)	P	R	Q
(C)	Q	R	P
(D)	P	Q	R

86. Figure given below shows the different parts of a flower.

Which parts form the carpel?

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



87. Why must seeds be dispersed far away from the parent plant?

- I To ensure the survival of the species
- II To avoid competition for sunlight
- III Because plants can move by themselves
- IV To ensure plants obtain sufficient space for growth

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

88. Akhil has started a garden. What can he do to enrich the soil so that his plants will grow better?

- (A) Remove earthworms from the soil
- (B) Add more water to the soil
- (C) Increase the amount of pesticide he uses
- (D) Mix decomposed organic matter into the soil

89. Analysis of a sample of air gives the following details.

Nitrogen	Oxygen	Carbon dioxide
78.0%	16.4%	4.4%

The sample of air is most probably:

- (A) dissolved air from pond water
- (B) fresh air from a field
- (C) exhaled air
- (D) polluted air near a factory

90. Which of the following is an example of a decomposer in the food web?

- (A) A tree growing in a field
- (B) A grasshopper eating leaves
- (C) A seagull catching a fish
- (D) A fungus growing on a log

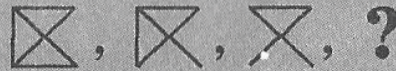
**CLASS : VII****GENERAL QUESTIONS**

91. Which letter should come in the place of the question mark in the following series?

**A, C, F, J, ?, U**

- (A) L (B) M (C) N (D) O

92. What comes next in the series given below?



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

93. Which word means 'to make less intense'?

- (A) Magnify (B) Mystify (C) Nullify (D) Mollify

94. Which of the following states is not likely to benefit from the Sardar Sarovar Project?

- (A) Rajasthan (B) Andhra Pradesh  
(C) Maharashtra (D) Gujarat

95. Abhinav Bindra won India's first solo Olympic gold medal in:

- (A) boxing (B) swimming (C) athletics (D) shooting

96. How many Postal Index Zones are there in India?

- (A) 26 (B) 12 (C) 10 (D) 8

97. The UN body which has instituted an award in the name of Jawaharlal Nehru is:

- (A) FAO (B) UNCTA (C) UNESCO (D) WHO

98. Who played Harry Potter's best friend Ron Weasley in the Potter films?

- (A) Daniel Radcliffe (B) Steve Kloves  
(C) Rupert Grint (D) None of these

99. Who is the Chairman of the 'Planning Commission'?

- (A) Chief Minister (B) President  
(C) Vice-President (D) Prime Minister

100. Baiga is a:

- (A) river (B) tribe (C) festival (D) hill station

## KEY FOR THE Q.P.-2009

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