CLASS : VIII MATHEMATICS

1. **The fraction, $\frac{1}{3}$:**

   (A) equals 0.33333333

   (B) is less than 0.33333333 by $\frac{1}{3 \cdot 10^8}$

   (C) is less than 0.33333333 by $\frac{1}{3 \cdot 10^9}$

   (D) is greater than 0.33333333 by $\frac{1}{3 \cdot 10^8}$

2. **When simplified and expressed with negative exponents, the expression $(x + y)^{-1} (x^{-1} + y^{-1})$ is equal to:**

   (A) $x^{-2} + 2x^{-1}y^{-1} + y^{-2}$ (B) $x^{-2} + 2^{-1}x^{-1}y^{-1} + y^{-2}$

   (C) $x^{-1} y^{-1}$ (D) $x^{-2} + y^{-2}$

3. **If the square of a number of two digits is decreased by the square of the number formed by reversing the digits, then the result is not always divisible by:**

   (A) 9 (B) the product of the digits

   (C) the sum of the digits (D) the difference of the digits

4. **By what least number by which 3600 be divided to make it a perfect cube?**

   (A) 9 (B) 50 (C) 300 (D) 450

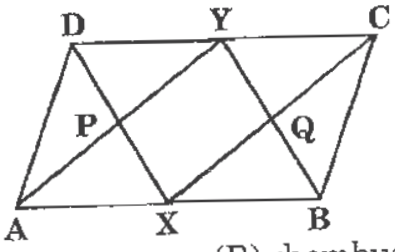
5. **If $xy = b$ and $\frac{1}{x^2} + \frac{1}{y^2} = a$, then $(x + y)^2$ equals:**

   (A) $(a + 2b)^2$ (B) $a^2 + b^2$ (C) $b(ab + 2)$ (D) $\frac{1}{a} + 2b$

6. **The sum of three numbers is 98. The ratio of the first to the second is $\frac{2}{3}$ and the ratio of the second to the third is $\frac{5}{8}$. The second number is:**

   (A) 15 (B) 20 (C) 30 (D) 32

7. **X, Y are mid-points of opposite sides AB and DC of a parallelogram ABCD. AY and DX are joined intersecting in P; CX and BY are joined intersecting in Q. Then PXQY is:**



(A) rectangle (B) rhombus
(C) parallelogram (D) square

8. **Each edge of a cube is increased by 50%. The percent of increase in the surface area of the cube is:**
(A) 50 (B) 125 (C) 150 (D) 300

9. **Given two positive integers x and y with x < y. The percent that x is less than y is:**

(A) $\frac{100(y-x)}{x}$ (B) $\frac{100(x-y)}{x}$

(C) $\frac{100(y-x)}{y}$ (D) $100\,(x-y)$

10. **A rational number can be expressed as a terminating decimal if the denominator has factors:**
(A) 2 or 5 (B) 2, 3 or 5 (C) 3 or 5 (D) None of these

11. **Which of the following is not equal to y^6?**

(A) $\left(y^{\frac{2}{3}}\right)^9$ (B) $\left(\sqrt{y^6}\right)^2$ (C) $\sqrt[3]{y^{18}}$ (D) $\left(y^{\frac{1}{3}}\right)^{12}$

12. **If $\sqrt{0.04 \times 0.4 \times a} = 0.004 \times 0.4 \times \sqrt{b}$, then $\frac{a}{b}$ is equal to:**
(A) 16×10^{-3} (B) 16×10^{-4} (C) 16×10^{-5} (D) 16×10^{-2}

13. **It is given that x varies directly as y and inversely as the square of z, and that x = 10 when y = 4 and z = 14. Then, when y = 16 and z = 7, x equals:**
(A) 180 (B) 160 (C) 154 (D) 140

14. **The product of x^2y and $\frac{x}{y}$ is equal to the quotient obtained when x^2 is divided by:**

(A) 0 (B) 1 (C) x (D) $\frac{1}{x}$

15. **P alone can complete a work in 12 days, while P and Q together can complete the same work in 8 days. The number of days that Q will take to complete the work alone is:**

(A) 10 (B) 24 (C) 20 (D) 9

16. **The figure given below shows a rectangle with a perimeter of 60 cm.**

What is the value of x?

(A) 7 (B) 9 (C) 12 (D) 29

17. **Which of the following does not have a vertex?**

(A) Cube (B) Pyramid (C) Cylinder (D) Cone

18. **Anil owns a plot worth Rs. 10,000. He sells it to Mukesh at a profit of 10%. After sometime, Mukesh sells it back to Anil at a loss of 10%, then Anil:**

(A) loses Rs. 100 (B) loses Rs. 900

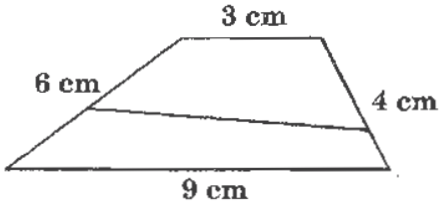
(C) gains Rs. 100 (D) gains Rs. 1100

19. **$xy(z^2 + 1) + z(x^2 + y^2)$ can be factorized as :**

(A) $(xy + z)(yz + x)$ (B) $(zx + y)(xy + z)$

(C) $(yz + x)(zx + y)$ (D) $(x^2 + y^2)(z + x)$

20. **The parallel sides of a trapezoid are 3 cm and 9 cm. The non-parallel sides are 4 cm and 6 cm. A line parallel to the bases divides the trapezoid into two trapezoids of equal perimeters. The ratio in which each of the non-parallel sides is divided is:**



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

21. **The length of rectangle R is 10% more than the side of square S. The width of the rectangle is 10% less than the side of the square. The ratio of the areas, R : S, is:**

(A) 99 : 100 (B) 101 : 100 (C) 1 : 1 (D) 199 : 200

22. **The difference between a discount of 40% and two successive discounts of 36% and 4% for Rs. 10,000 is:**

(A) Rs. 0 (B) Rs. 144 (C) Rs. 256 (D) Rs. 400

23. **The volume of a cylinder is 48.125 cm^3, which is formed by rolling a rectangular paper sheet along the length of the paper. If a cuboidal box (without any lid i.e., open at the top) is made from the same sheet of paper by cutting out the square of side 0.5 cm from each of the four corners of the paper sheet, then what is the volume of this box?**

(A) 20 cm^3 (B) 38 cm^3 (C) 19 cm^3 (D) 24 cm^3

24. **Of the 120 people in the room, $\frac{3}{5}$ are women. If $\frac{2}{3}$ of the people are married, then what is the maximum number of women in the room who could be unmarried?**

(A) 40 (B) 20 (C) 30 (D) 60

25. **If the difference between the compound interest, compounded every six months, and the simple interest on a certain sum of money at the rate of 12% per annum for one year is Rs. 36, the sum is:**

(A) Rs. 10,000 (B) Rs. 12,000 (C) Rs. 15,000 (D) Rs. 18,000

CLASS : VIII PHYSICS

26. **A polyethylene strip rubbed against a woollen cloth can attract small pieces of paper. Which of the following changes takes place on small pieces of paper during the application of the force ?**

(A) The shape of the object (B) The position of the object

(C) The density of the object (D) The mass of the object

27. **Why tyres are circular in shape?**

(A) It is easy to inflate them.

(B) Rolling friction is less than sliding friction.

(C) Circular tyres dissipate less heat.

(D) It is easy to slow down or stop vehicle.

28. When sound is emitted from a loud speaker, there is a/an:

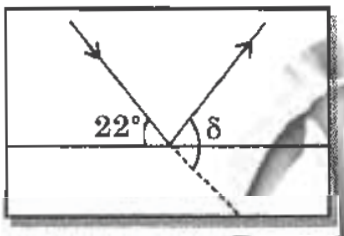
(A) increase in the pitch of the sound.

(B) decrease in the pitch of the sound.

(C) increase in the speed of the sound.

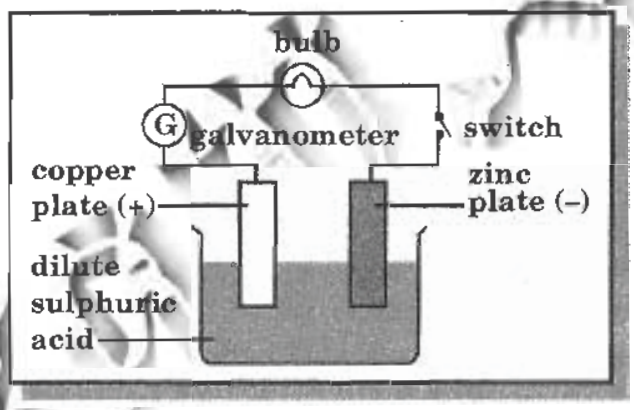
(D) increase in the loudness of the sound.

29. Observe the figure given below as shown. A light ray reflecting from a plane mirror. What is the angle of deviation δ?



(A) 68° (B) 22° (C) 136° (D) 44°

30. Figure below shows a simple cell:



Which of the following is true about the above reaction when the switch is closed?

(A) The zinc plate becomes thicker.

(B) The concentration of dilute sulphuric acid increases.

(C) Hydrogen gas bubbles are produced at the anode.

(D) Electrons flow from the copper plate to the zinc plate through the external circuit to produce an electric current.

31. Which of the following is prominent in the early warning of a cyclone?

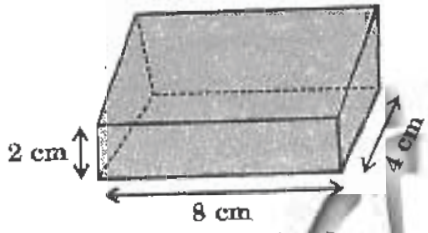
(A) Satellite (B) Jet planes
(C) Helicopters (D) Submarines

32. The charges present on the various objects are as shown in the figure below. In which of the following cases, a force of repulsion acts between them?

(A) +3 C +3 C (B) –3 C +3 C

(C) +3 C 0 C (D) –3 C 0 C

33. Look at the block placed on the table given below:



Which of the following physical quantities is not same when this block is kept over a table with different faces touching the table ?

(A) Pressure (B) Thrust

(C) Weight (D) Mass

34. On a rough surface, when does a body have zero force of friction ?

(A) When no force is applied on it.

(B) When large force is applied on it.

(C) When the body is rolling on the surface.

(D) When the body is sliding on the surface.

35. A note of sound from a violin has a higher pitch than that from a guitar but it is less louder than that from the violin. The sound from which instrument has the higher amplitude, and which has the higher frequency ?

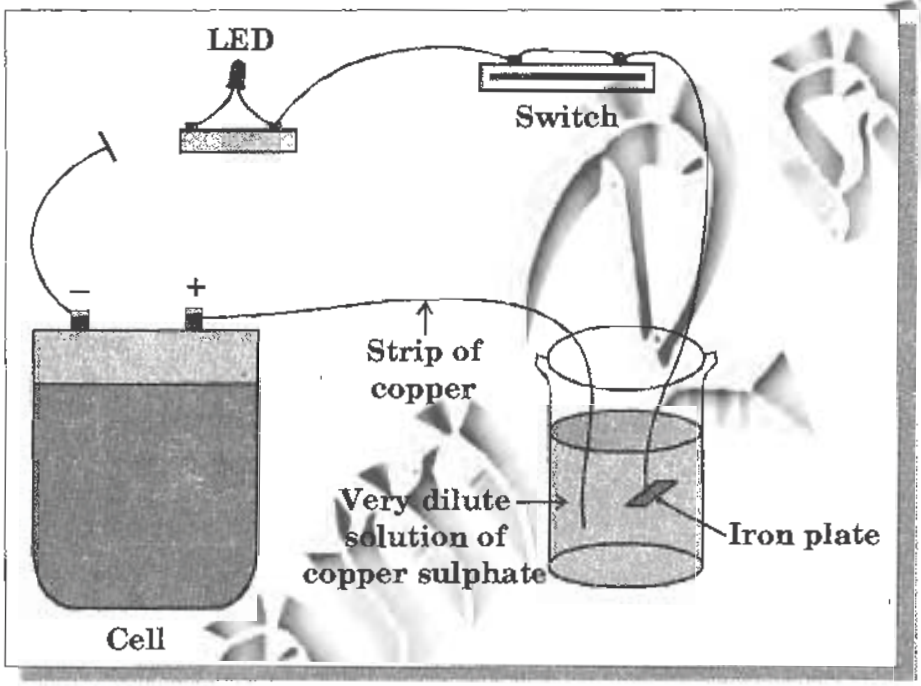
	Higher amplitude	Higher frequency
(A)	Violin	Guitar
(B)	Violin	Violin
(C)	Guitar	Violin
(D)	Guitar	Guitar

36. For a given incident ray, the plane of the mirror makes an angle θ with the incident ray then reflected ray is turned through 2θ. This fact is used in which of the options given below?

(A) Periscope (B) Kaleidoscope

(C) Shaving mirrors (D) Automobile head lights

37. The experimental setup is shown in the figure below :



What is the reason the LED does not glow in the given experimental setup ?

(A) Negative terminal of cell is not connected to the LED.

(B) Liquid electrolyte used is a bad conductor of electricity.

(C) Electricity is discharged into air.

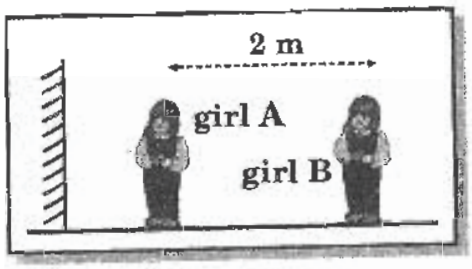
(D) Switch is in open condition.

38. Which of the following events can cause earthquake ?

I. Movement of earth's plate
II. Volcanic eruption
III. Underground nuclear explosion

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

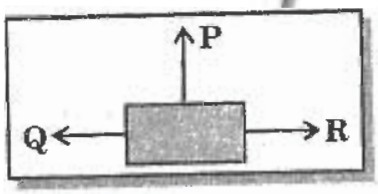
39. Two girls are standing infront of a plane mirror as shown in the figure given below. When girl A looks into the mirror image of girl B is 14 m away from her. Find the distance of girl B from the mirror.



(A) 6 m (B) 5 m

(C) 8 m (D) 10 m

40. Three persons P, Q and R pull a block with equal forces as shown in figure. Identify the direction of motion of the block ?



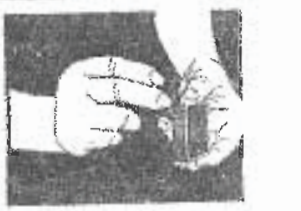
(A) In horizontal direction towards left.

(B) In horizontal direction towards right.

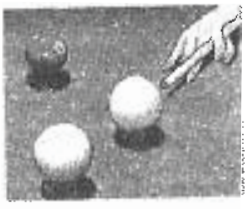
(C) In vertically upward direction.

(D) The block remains stationary.

41. Looking at the pictures given below:



I. Striking a match stick



II. Playing snooker

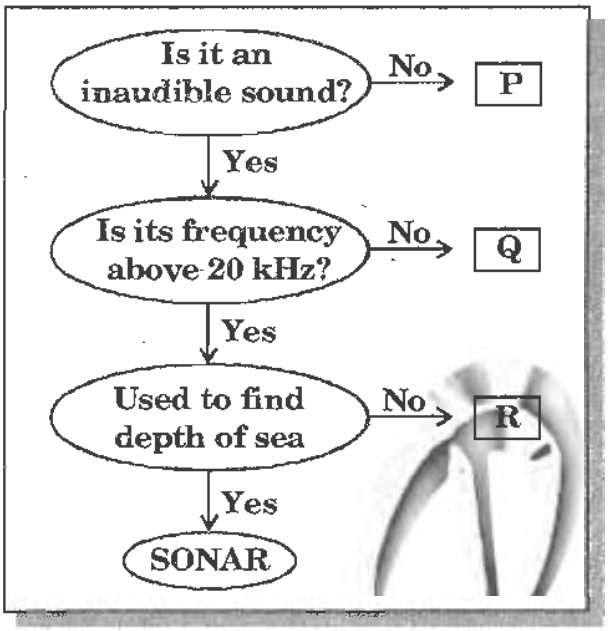
III. Writing on black board

Identify the pictures in which friction plays a helpful role.

(A) I and II only (B) II and III only

(C) I and III only (D) I, II and III

42. Look at the flow chart given below :



Which of the following letters can be replaced by "infrasonics"?

(A) P (B) Q

(C) R (D) Both (A) & (B)

43. Which of the following are the characteristics of one of the natural calamity?

X : It occurs due to strong upward rising winds
Y : It develops into a cyclone with wind speed reaching upto 200 km h^{-1}
Z : It may form tornado within cyclones

(A) Floods (B) Thunder storm

(C) Earthquake (D) Famine

44. Why is zinc better than tin if we want to protect a piece of iron from rusting by electroplating ?

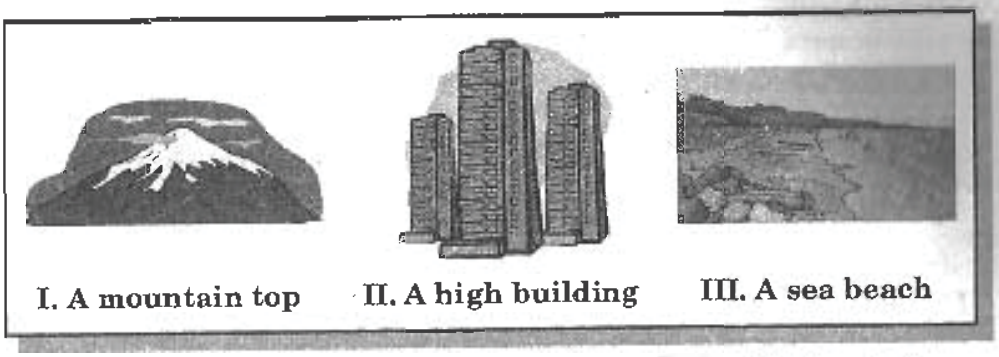
(A) Zinc is cheaper than tin.

(B) Tin is toxic.

(C) Zinc can prevent iron from contacting with water and air.

(D) Rusting is prevented even when the zinc layer is broken.

45. Arrange the given pictures in ascending order according to the air pressure at the highest point in each case.



I. A mountain top II. A high building III. A sea beach

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

46. Look at the figure given below :

Without which of the following forces given below the person would not be able to climb on the wall?

(A) Gravitational force (B) Electrical force

(C) Frictional force (D) Magnetic force

47. Look at the table given below, it tells how the speed of sound varies with substances of different densities:

Substance	Speed of sound in substance ($m\ s^{-1}$)	Density of substance ($kg\ m^{-3}$)
Air (gas)	330	1.29
Oxygen (gas)	320	1.43
Aluminium (metal)	5100	2710
Iron (metal)	5000	7870
Lead (metal)	1200	11300

From the above information what conclusion can be drawn about the speed of sound?

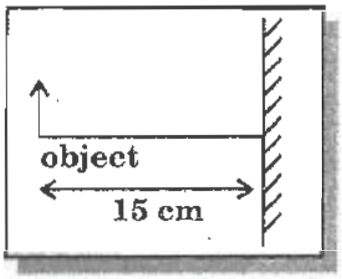
(A) The speed increases as the density of the substance increases.

(B) The speed is greater in less dense substances.

(C) The speed is greater in metals than in gases.

(D) The speed is greater in gases than metal.

48. An object is placed 15 cm from the plane mirror as shown in figure:



If the object is made to move towards plane mirror which of the following changes will takes place?

(A) The size of the image will become less than the size of the object.

(B) The distance between the image and the plane mirror decreases.

(C) The focal length of plane mirror decreases.

(D) The image distance remains same.

49. Which of the following statements is correct?

(A) Distilled water is a good conductor of electricity.

(B) An LED glows even when a weak electric current flows through it.

(C) Only liquid solutions of salts can conduct electricity.

(D) Zinc plating is done to make the object scratch proof.

50. Frictional force is independent of area of contact but still brakes of very small contact are not preferred. Why?

(A) Friction depends on the nature of the material.

(B) Friction causes wear and tear.

(C) Friction resists motion.

(D) Friction caused is due to sliding friction.

CLASS : VIII CHEMISTRY

51. Though aluminium is a metal, which property of metals is not exhibited by it?

(A) Malleability

(B) Ductility

(C) High density

(D) Good conductor of heat and electricity

52. "The process of burning of a wax candle is similar to respiration". Which of the following choices given below violates the above statement?

(A) Oxidation of fuel.

(B) Release of watervapour and carbon dioxide.

(C) Processes takes place at room temperature.

(D) Liberation of energy.

53. Identify from the following that is not a fossil fuel.

(A) Coal (B) Biogas

(C) Petroleum (D) Natural gas

54. Naveen wants to study the characteristics of three metals X, Y, Z when exposed to moist air. Following are the observations made:

Metal	Colour change
X	Green coating
Y	Brownish red
Z	No change

Identify the probable metals Naveen had.

	X	Y	Z
(A)	Cu	Fe	Pt
(B)	Fe	Ag	Au
(C)	Fe	K	Ag
(D)	Na	Ca	Au

55. *Assertion:* Nylon ropes are used for rock climbing.

***Reason:* Nylon fibre is strong, elastic and light.**

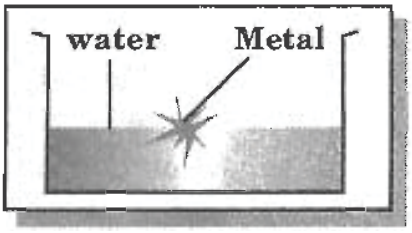
(A) Both assertion and reason are true and reason is the correct explanation of the assertion.

(B) Both assertion and reason are true, but reason is not the correct explanation of the assertion.

(C) Assertion is true, but reason is false.

(D) Assertion is false, but reason is true.

56. Figure given below shows an activity in which a metal reacts vigorously with cold water to form a silvery white globule with a yellow flame and a hissing intermittent pops sound:



Identify the metal.

(A) Magnesium (B) Iron

(C) Sodium (D) Aluminium

57. "We should practice the habit of conserving energy". Which of the following statements is related to the above comment?

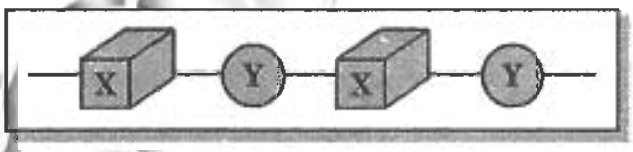
(A) Increased use of fossil fuels is depleting their sources far too fast.

(B) All the energy used today is obtained from nonrenewable sources.

(C) Large areas of forest have been cut down to obtain fire wood.

(D) Sunlight is gradually becoming dimmer.

58. The structure of a fabric with, its component units X, Y linked is given below :



Identify fabric from the following.

(A) PVC (B) Polycot

(C) Polystyrene (D) Polyethylene

59. Study the characteristics given below:

- It is a dark coloured viscous liquid
- It has a strong smell

Identify the compound among the following based on the above characteristics.

(A) Kerosene (B) Petrol

(C) Petroleum (D) Alcohol

60. ***Assertion:*** **In case of oil fires, to extinguish the fire, the burning material is not sprayed with water.**

Reason: **Density of water is more than density of oil.**

(A) Both assertion and reason are true and reason is the correct explanation of the assertion.

(B) Both assertion and reason are true, but reason is not the correct explanation of the assertion.

(C) Assertion is true, but reason is false.

(D) Assertion is false, but reason is true.

61. **Study the given reactions carefully:**

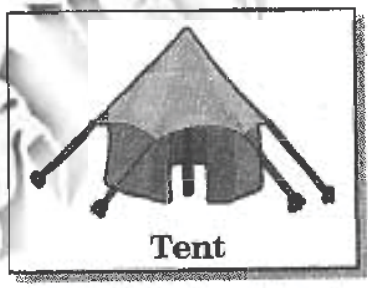
- $WSO_4 + X \longrightarrow$ No reaction
- $YSO_4 + W \longrightarrow WSO_4 + Y$
- $XSO_4 + Y \longrightarrow YSO_4 + X$
- $XSO_4 + Z \longrightarrow$ No reaction

Which of the following reactions takes place?

(A) Reaction between WSO_4 and Y. (B) Reaction between WSO_4 and Z.

(C) Reaction between YSO_4 and X. (D) Reaction between ZSO_4 and Y.

62. **Look at the figure given below:**



Tent

The material used to make the object above is used to make :

I : An umbrella
II : A raincoat
III : A book
IV : A water container

(A) I, II and III only (B) I, II and IV only

(C) I, III and IV only (D) II, III and IV only

63. Which of the following substances given below does not cause acid rain by burning them ?

(A) Coal (B) Diesel

(C) Petrol (D) Coke

64. Identify the true statement from the following.

(A) Metals have fixed melting point whereas non metals do not.

(B) All metals are malleable.

(C) The hardest substance known is a non metal.

(D) Tungsten is a good conductor of heat and electricity.

65. Which of the following is the property of thermoplastics?

(A) They do not bend.

(B) They do not get deformed easily.

(C) They are resistant to most chemicals.

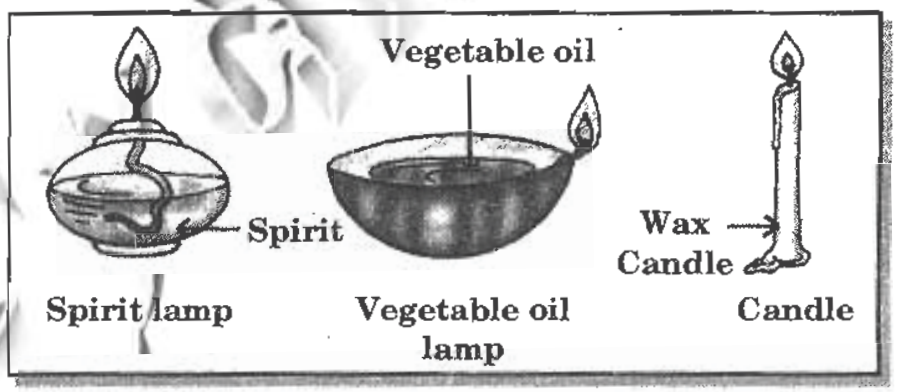
(D) They are long polymer chains with strong bond.

66. Which of the following substances does not react with water but still stored under kerosene ?

(A) Phosphorus (B) Calcium

(C) Iron (D) Sulphur

67. Figure below shows the wick being placed differently in different fuels :



Identify the reasons in each case for placing wick differently.

	Spirit lamp	Vegetable oil lamp	Candle
(A)	Fuel is highly inflammable	To vaporize oil	To melt the wax below
(B)	To vaporize spirit	To freeze the oil	Fuel is highly inflammable
(C)	Fuel is highly inflammable	Fuel is highly inflammable	Fuel is highly inflammable
(D)	To freeze the spirit	Fuel is highly inflammable	To vaporize the wax

68. During fractional distillation of petroleum do the vapours with highest boiling point condense. At which part of the fractionating tower ?

(A) In upper most portion (B) In lower most portion

(C) In middle portion (D) Cannot be said

69. Study the characteristics of a fuel given below:

- Highest calorific value
- Forms water vapour on combustion
- Non polluting
- Limited use as liquid fuel

Among the following fuels which have the above characteristics ?

(A) Kerosene (B) Petrol

(C) L.P.G (D) Hydrogen

70. Sunil gave his clothes to his younger brother Hari when he outgrew them. What is this practice known as ?

(A) Recycling (B) Reusing

(C) Reducing (D) Reinventing

CLASS : VIII BIOLOGY

71. The organic manure is considered better than fertilisers because:

(A) it can be prepared in the fields

(B) it is less rich in plant nutrient

(C) it improves the texture of the soil

(D) it decreases the water holding capacity of the soil

72. Which of the following pairs of microorganism and disease is wrongly matched?

(A) Virus – Tobacco mosaic disease

(B) Protozoa – Sleeping sickness

(C) Fungus – Athlete's foot

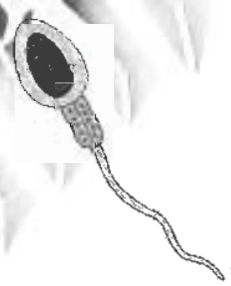
(D) Bacteria – Rust of wheat

73. Which of the following changes is NOT observed in a boy at puberty?

(A) He grows in height and weight (B) He starts to produce sperms

(C) Pubic hair starts to grow (D) Voice becomes feminine

74. The diagram given below shows a human cell.



This cell is produced in the:

(A) ovary (B) sperm ducts (C) oviducts (D) testes

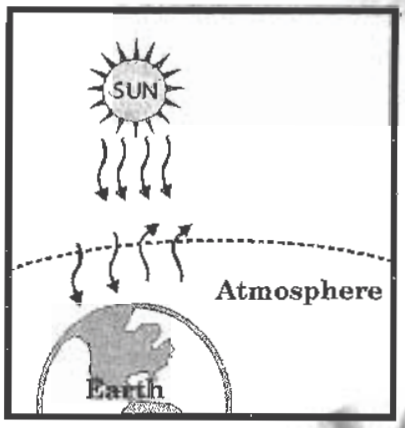
75. Read the information given below and identify the beneficial activities of bacteria.

I. The digestion of cellulose in herbivores
II. The production of antibiotics
III. The decomposition of waste matter

(A) I and II only (B) I and III only

(C) II and III only (D) I, II and III

76. The diagram given below shows the greenhouse effect.



Which of the following would happen in the absence of greenhouse effect in the atmosphere?

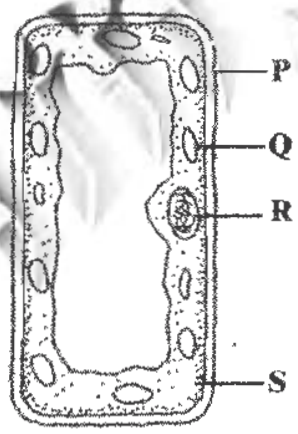
(A) Pollution will increase

(B) Earth's surface temperature will decrease

(C) Earth surface temperature will increase

(D) The ozone layer will increase earth's temperature

77. Study the figure given below.



Which labelled part contains information that is passed from one generation to the next?

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

78. An organism is described in the class as having many nuclei containing cells, each surrounded by a cell wall of chitin and absorbing its food. In which kingdom would you place it?

(A) Plantae (B) Animalia

(C) Protista (D) Fungi

79. Which one of the following lists the structures which are present both in animal and plant cells?

(A) Cell wall, chromosomes, cytoplasm, chloroplasts

(B) Cell membrane, chromosomes, cytoplasm, mitochondrion

(C) Cell membrane, chloroplast, chromosomes, cytoplasm

(D) Cytoplasm, mitochondrion, cell wall, chromosomes

80. Which of the following processes occur once a month in an adolescent girl?

I. Fertilisation
II. Ovulation
III. Menstruation

(A) II and III only (B) I and III only

(C) I and II only (D) I, II and III

81. What is /are the likely consequences of the activity as shown in the figure given below?

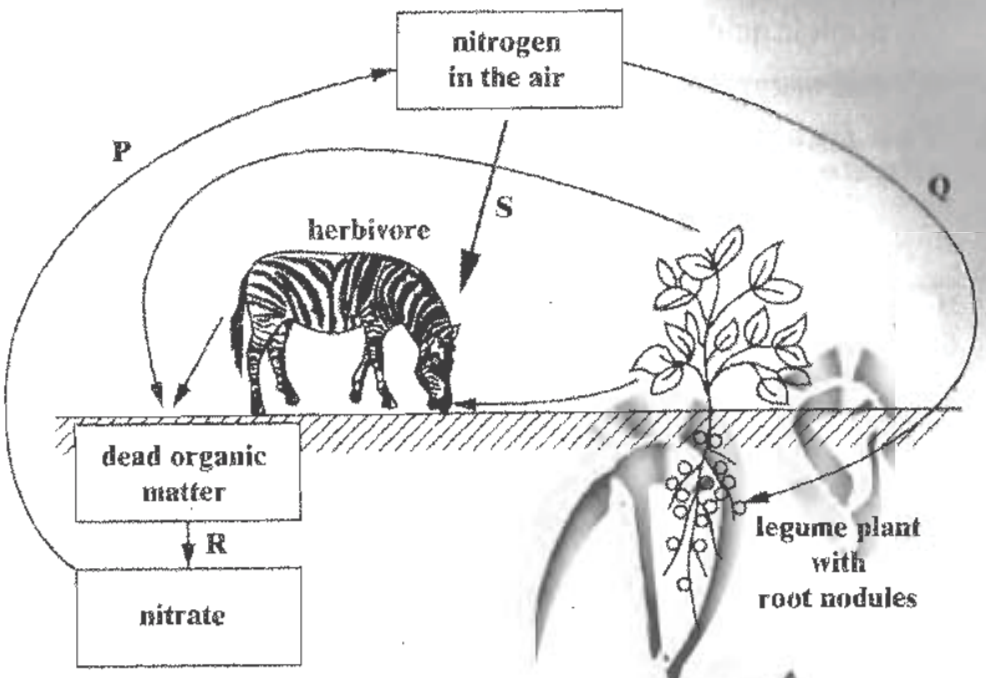
(A) Carbon dioxide in the air increases

(B) Destruction of habitats

(C) Mineral salts in the soil are washed away

(D) All of the above

82. The diagram given below shows a part of the nitrogen cycle.



Which arrows identify nitrogen fixation and denitrification?

	Nitrogen fixation	Denitrification
(A)	P	Q
(B)	R	S
(C)	Q	P
(D)	R	Q

83. Which of the following will occur if the fallopian tube is ligated?

(A) Ovum will not be produced

(B) No fertilisation will occur

(C) Implantation of the zygote cannot occur

(D) No sex hormones will be produced

84. Which of the following food(s) is/are suitable to be preserved using dehydration process?

(A) Fish (B) Chillies

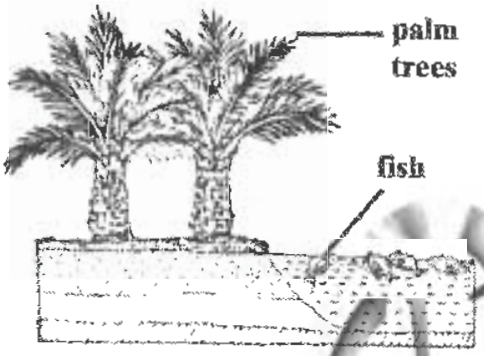
(C) Mushrooms (D) All of the above

85. Virion consists of :

(A) nucleic acids (B) nucleus

(C) cell organelles (D) cytoplasm

86. The figure given below shows a situation of a pond situated near an oil palm estate.



What could be the possible reason for the death of the fish in the pond next to the oil palm estate?

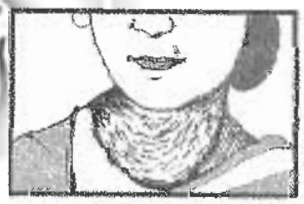
(A) The waste products given out by the plants

(B) The practise of crop rotation in the estate

(C) The use of biological control in the estate

(D) The use of chemical fertilisers in the estate

87. The diagram given below shows a symptom of a disease. It is due to the deficiency of:



(A) potassium in the diet (B) iodine in the diet

(C) iron in the blood (D) calcium in the bones

88. Which of the following methods of irrigation is adopted extensively in areas of acute water scarcity?

(A) Chain pump system

(B) Drip system

(C) Sprinkler system

(D) Furrow irrigation

89. Inland fisheries refers to:

(A) culturing fish in fresh water

(B) deep sea fisheries

(C) trapping and capturing fish from sea coast

(D) extraction of oil from fishes

90. Research in Biology includes:

I. Finding cures for diseases
II. Saving animals and plants from extinction
III. A better understanding of how the physical world works
IV. A better management of problems related to the environment

(A) I and IV only (B) II and III only

(C) I, II and IV only (D) II, III and IV only

CLASS : VIII GENERAL QUESTIONS

91. Which figure should come next in the series given below?

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

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

5, 15, 28, 44, 63, 85 ?

(A) 125 (B) 105

(C) 110 (D) 120

93. What is the maximum duration of interval between the two sessions of parliament?

(A) 6 months (B) 12 months

(C) 3 months (D) 9 months

94. Which two cities were connected by the longest road that Sher Shah Suri built?

(A) Delhi and Karachi (B) Dacca and Lahore

(C) Mysore and Lahore (D) Srinagar and Kanyakumari

95. In a group of horses and hens, the number of legs are 14 more than twice the number of heads. The number of horses is:

(A) 5 (B) 7 (C) 10 (D) 12

96. Who among the following in the creator of 'Spiderman'?

(A) Walt Disney (B) J.K. Rowling

(C) Salman Rushdie (D) Stan Lee

97. How many Academy Awards did the film 'Slumdog Millionaire' win at the Oscar?

(A) 8 (B) 4 (C) 6 (D) 2

98. What does 'X' in the term 'X-ray' mean?

(A) Extra (B) Unknown

(C) Extreme (D) Ultra

99. Lakshadweep Islands are located in the:

(A) Pacific Ocean (B) Arabian Sea

(C) Indian Ocean (D) Bay of Bengal

100. Which of these is NOT a Seven New Wonder of the World, as per the list prepared by New Open World Corporation in 2007?

(A) The Taj Mahal (B) The Great Wall of China

(C) The Colosseum (D) The Nile River

KEY FOR THE Q.P.-2010

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