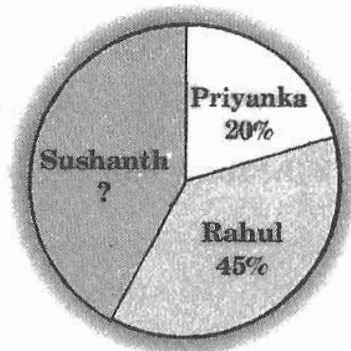


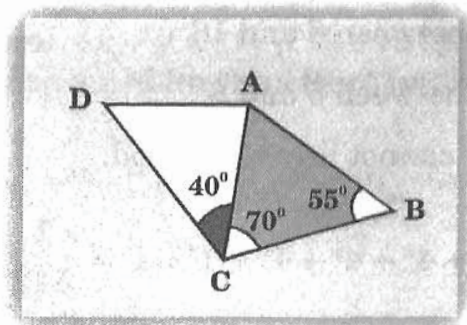
## CLASS : VIII

## MATHEMATICS

- Each of the numbers 1, 2, 3 and 4 is substituted, in some order for p, q, r and s. The greatest possible value of  $p^q + r^s$  is:  
 (A) 14            (B) 19            (C) 66            (D) 83
- Determine all ordered pairs that satisfy  $(x - y)^2 + x^2 = 25$ , where x and y are integers and  $x \geq 0$ . The number of different values of "y" that occur is:  
 (A) 3            (B) 4            (C) 5            (D) 6
- The pie chart shows a percentage breakdown of 1000 votes in student elections. How many votes did Sushanth receive?

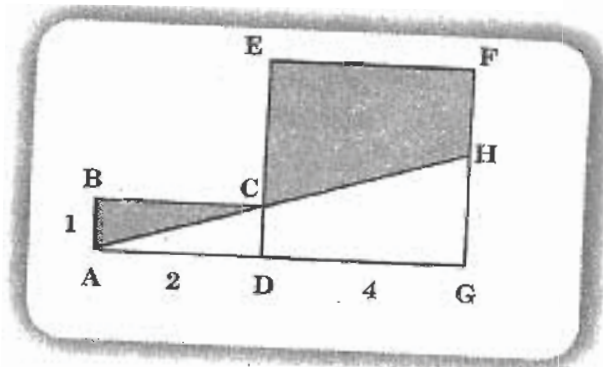


- (A) 550            (B) 350            (C) 330            (D) 450
- In the diagram,  $DA = CB$ . What is the measure of  $\angle DAC$ ?



- (A)  $70^\circ$             (B)  $100^\circ$             (C)  $95^\circ$             (D)  $125^\circ$

5. In the diagram, DEFG is a square and ABCD is a rectangle. A straight line is drawn from "A", passes through "C" and meets FG at H. The area of the shaded region is:



- (A) 8                      (B) 8.5                      (C) 10                      (D) 9
6.  $10 + 10^3$  equals \_\_\_\_\_  
 (A)  $2.0 \times 10^3$       (B)  $8.0 \times 10^3$       (C)  $4.0 \times 10^3$       (D)  $1.01 \times 10^3$
7. Solve:  $2^{x+1} = 8^x$   
 (A) 1                      (B) 3                      (C)  $\frac{-1}{3}$                       (D)  $\frac{1}{2}$
8. The difference of two numbers is 2. If the difference of their squares is 18, what is their sum?  
 (A) 20  
 (B) A number between 8 and 16  
 (C) A number between 5 and 8  
 (D) This value cannot be determined
9. If  $4^x + 4^x + 4^x + 4^x + 4^x + 4^x + 4^x + 4^x = \frac{1}{512}$ , then what is the value of  $\frac{-3}{x}$ ?  
 (A) 0.50                      (B) 0.75                      (C) -0.75                      (D) -4.25

10. The area of a circle that is inscribed in a right triangle with sides of length 8 m, 15 m and 17 m is:

- (A)  $9\pi \text{ m}^2$       (B)  $11\frac{1}{9}\pi \text{ m}^2$       (C)  $14\pi \text{ m}^2$       (D)  $10\pi \text{ m}^2$

11. If  $\frac{x+c}{x+1} = c+1$ , then  $x =$  \_\_\_\_\_

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

12. A bag contains a number of marbles of which 80 are red, 24 are white and the rest are blue. If the probability of randomly selecting a blue marble from this bag is  $\frac{1}{5}$ , how many blue marbles are there in the bag?

- (A) 25      (B) 26      (C) 27      (D) 28

13. Each angle of a rectangle is bisected. Let P, Q, R and S be the points of intersection of the pairs of bisectors adjacent to the same side of the rectangle. Then PQRS is a:

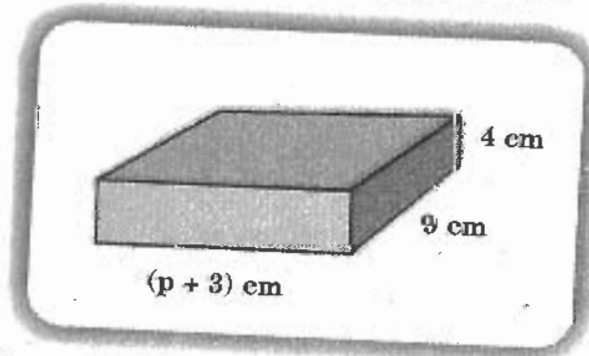
- (A) rectangle  
(B) rhombus  
(C) parallelogram with unequal adjacent sides  
(D) quadrilateral with no special properties

14. In the equation:  $4x + y = 10$ , if the value of  $x$  is increased by 3, then what would be the effect on the corresponding value of  $y$ ?

- (A) The value of "y" will decrease by 12.  
(B) The value of "y" will decrease by 2.  
(C) The value of "y" will increase by 3.  
(D) The value of "y" will be 3 times as large.



15. If  $x + y = 17$  and  $x^2 + y^2 = 167$ , then what is the value of  $xy$ ?  
 (A)  $17 + 4\sqrt{114}$  (B) 61 (C)  $48 + \sqrt{167}$  (D) 122
16. If  $\sqrt{x} = \sqrt[3]{9}$ , then what does  $x^2$  equal to?  
 (A)  $\sqrt[3]{81}$  (B) 3 (C)  $9\sqrt[3]{9}$  (D)  $\sqrt[3]{9}$
17. 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
18. Which of the given geometric solids has the maximum number of vertices?  
 (A) Cone (B) Cylinder (C) Cuboid (D) Sphere
19. What will be the difference between simple and compound interests at the rate of 10% per annum on a sum of Rs. 1000 after 4 years?  
 (A) Rs. 64.10 (B) Rs. 40.40 (C) Rs. 32.10 (D) Rs. 31
20. The sum of two rational numbers is  $-3$ . If one of the numbers is  $-\frac{7}{5}$ , then the other number is:  
 (A)  $-\frac{8}{5}$  (B)  $\frac{8}{5}$  (C)  $-\frac{6}{5}$  (D)  $\frac{6}{5}$
21. The figure shows a cuboid with a volume of  $180 \text{ cm}^3$ .



What is the value of "p"?

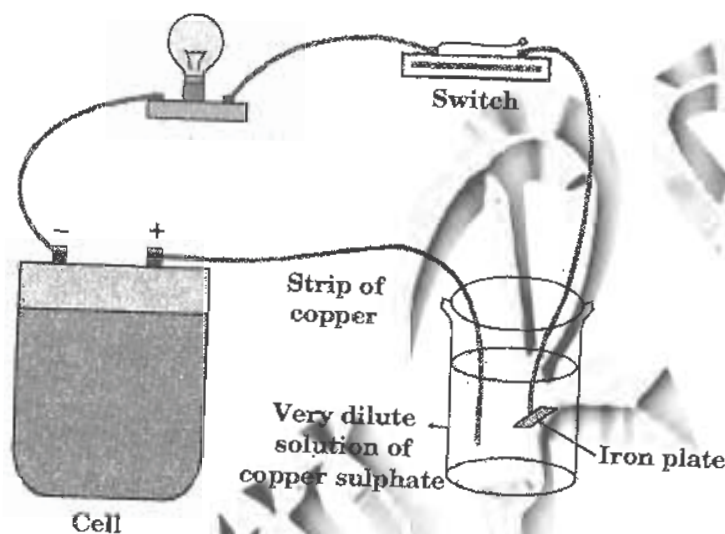
- (A) 2 (B) 18 (C) 36 (D) 72

22. The diagonal of a rectangle is thrice its smaller side. The ratio of its sides is:
- (A)  $\sqrt{2} : 1$       (B)  $2\sqrt{2} : 1$       (C)  $3 : 2$       (D)  $\sqrt{3} : 1$
23. If SP of an article is  $\frac{4}{3}$  of its CP, then the profit in the transaction is:
- (A)  $\frac{1}{3}\%$       (B)  $20\frac{1}{2}\%$       (C)  $33\frac{1}{3}\%$       (D)  $25\frac{1}{2}\%$
24. If  $2x - \frac{1}{2x} = 3$ , then the value of  $16x^4 + \frac{1}{16x^4}$  is:
- (A) 11      (B) 117      (C) 119      (D) 121
25. The shape formed by rotating a right triangle about its height is:
- (A) cuboid      (B) cone      (C) cylinder      (D) sphere

**CLASS : VIII****PHYSICS**

26. The weight of an astronaut in outer space is:
- (A) less than his actual weight  
(B) more than his actual weight  
(C) same as his actual weight  
(D) zero
27. Which one of the following activities will produce least amount of frictional force?
- (A) Walking      (B) Running  
(C) Ice-skating      (D) Rowing a boat
28. The frequency of a source is 15 KHz. The frequencies of the sound wave produced by it in water and air will:
- (A) be the same as that of the source  
(B) be different. Frequency in water will be more than that of air  
(C) be different. Frequency in air will be more than that of water  
(D) depend upon the velocities of sound in these media

29. According to the laws of reflection, which of the following statements is correct?
- (A) Angle of incidence is greater than the angle of reflection  
 (B) Angle of incidence is less than the angle of reflection  
 (C) Angle of incidence is equal to the angle of reflection  
 (D) Angle of incidence is not equal to the angle of reflection
30. The experimental set up shown in this figure is for:



- (A) checking conductivity of copper sulphate solution  
 (B) electroplating of iron  
 (C) checking the continuity of circuit  
 (D) glowing the electric bulb
31. The crust of earth is thicker:
- (A) under the continents      (B) under the ocean  
 (C) under the poles      (D) near faults
32. Which of the following is not a precaution to be taken during lightning?
- (A) Bathing should be avoided during thunderstorm  
 (B) Electrical appliances like computers, TVs should be unplugged  
 (C) Metal pipes inside the house should not be touched  
 (D) Electrical lights should not be switched on



33. We don't feel the atmospheric pressure because:

- (A) it is small in magnitude
- (B) it doesn't act on us. It only acts on atmosphere
- (C) our internal body pressure is equal to that of the atmospheric pressure
- (D) it doesn't act at sea level

34. In which of the following cases friction is useful?

I	Sharpening a pencil
II	Gears rubbing against each other
III	Striking a matchstick to light it
IV	Walking on ice

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

35. Decibel (dB) is an expression/unit used for:

- (A) loudness and amplitude of sound
- (B) loudness and pitch of sound
- (C) amplitude and pitch of sound
- (D) frequency of sound

36. The image formed by plane mirror is always:

- (A) real and erect
- (B) virtual and erect
- (C) virtual and inverted
- (D) real and inverted

37. Which of the following liquid is a bad conductor of electricity?

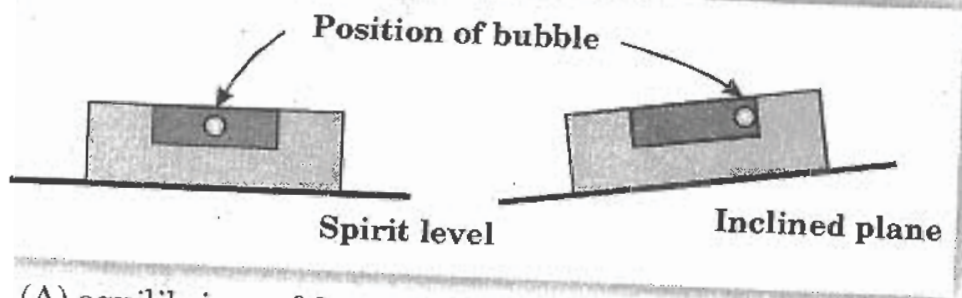
- (A) Lemon juice
- (B) Vinegar
- (C) Sea water
- (D) Distilled water

38. Match the items under column 'A' with column 'B'.

Column 'A'	Column 'B'
a. Epicentre	1. Magma
b. Tidal waves	2. Lithosphere
c. Molten rock	3. Earthquake
d. Mantle	4. Tsunami

- (A) a-1, b-2, c-3, d-4
- (B) a-2, b-3, c-4, d-1
- (C) a-3, b-4, c-1, d-2
- (D) a-4, b-1, c-2, d-3

39. The pin-hole camera works on the principle of :  
 (A) Rectilinear propagation of light (B) refraction of light  
 (C) interference of light (D) highest speed of light
40. A spirit level is used to determine the surface level. As shown in the figure, the air bubble will be at centre of the tube if the surface is horizontal. This is so because of:



- (A) equilibrium of forces on the air bubble  
 (B) balanced pressure on the air bubble  
 (C) the property of air bubble  
 (D) gravitational forces
41. Which of the following is NOT an effect of frictional force?  
 (A) Flattening of grooves of tyre due to use  
 (B) A rolling ball coming to a halt  
 (C) Leaves falling from tree on to ground  
 (D) Holding a pencil in your hand
42. The term that describes how the brain interprets the frequency of a sound, is called:  
 (A) loudness (B) frequency (C) pitch (D) auditory
43. Match the following.

1. Charge	P. Seismic zone
2. Lightning	Q. Electroscope
3. Earthquake	R. Richter scale
4. Seismograph	S. Thunder storm

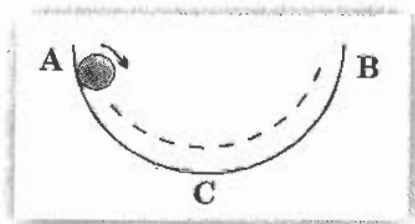
- (A) 1 - Q, 2 - S, 3 - P, 4 - R (B) 1 - S, 2 - Q, 3 - R, 4 - P  
 (C) 1 - R, 2 - P, 3 - S, 4 - Q (D) 1 - S, 2 - R, 3 - P, 4 - Q



44. A can as shown here, used for storing soft drinks or food items is usually electroplated with tin because:



- (A) tin is less reactive than the base metal with which the can is made  
 (B) tin is cheap  
 (C) tin is stronger and shiny in appearance  
 (D) tin is lighter than other metals
45. Which of the following statements on Moon is NOT correct?
- (A) The Moon orbits the Earth keeping the same side facing us  
 (B) The gravitational pull of Moon causes high tide in oceans  
 (C) The craters on Moon, caused long time ago are still existing because Moon has no atmosphere  
 (D) The sun lights up the complete Moon at any one time
46. Harish rolled a small steel ball at one edge of the glass bowl as shown. Consider that there is no friction between the surfaces of the ball and the bowl, what will happen?



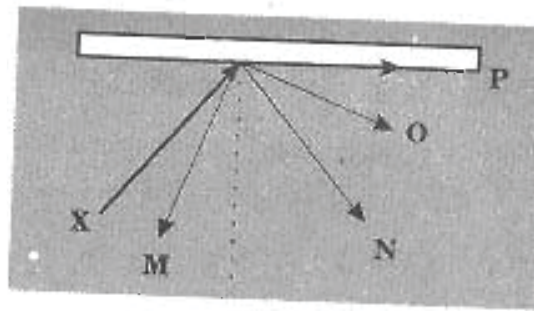
- (A) The ball will roll out of the glass bowl near edge 'B'  
 (B) It will stop at centre point 'C' after a number of to-and-fro motions  
 (C) It will keep moving between point A and B and will never stop  
 (D) It will not move at all since friction is required for movement

47. In a stethoscope, sound of heartbeat travel through its tube:

- (A) by bending along the tube
- (B) in a straight line
- (C) by undergoing multiple reflections
- (D) as ultrasonic frequency



48. The diagram shows the path of a light ray, X, directed at a plane mirror.



The correct reflected ray is:

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

49. Which of the following statements is NOT correct?

- (A) All vegetables are good conductors of electricity
- (B) The solution used for electroplating is a polluting waste
- (C) Acids are bad conductors of electricity
- (D) An electric bulb glows due to heating effect of current

50. Rear of buses and trucks are provided with double wheels (tyres) or even more. This is provided to:

- (A) increase pressure on ground
- (B) decrease pressure on ground
- (C) reduce friction
- (D) increase friction for efficient braking

**CLASS : VIII****CHEMISTRY**

51. Which of the following is NOT a property of metals?  
 (A) Ductile (B) Malleable (C) Insulator (D) Sonorous
52. The trapping of heat radiation by earth's atmosphere is known as:  
 (A) global warming (B) marble cancer  
 (C) green house effect (D) ozone hole
53. The difference between coal and coke is:  
 (A) coal is a mineral while coke is a residue  
 (B) coal is an impure form of carbon, coke is a pure form of carbon  
 (C) coal consists of atoms of carbon, hydrogen, oxygen and sulphur while coke is 98% carbon  
 (D) all of the above
54. The essential requirements for a fire to start and continue is:  
 (A) fuel (B) air (oxygen)  
 (C) heat (D) all of the above
55. Which of the following statements regarding thermoplastics and thermosets is/are true?

Thermoplastic	Thermosets
I Soft	Hard
II Able to withstand heat	Cannot withstand heat
III No cross linkages	Cross linkages present

- (A) I only (B) I and II only  
 (C) I and III only (D) I, II and III
56. Which of the following electronic configuration of an atom could be that of a non-metal?  
 (A) 2, 8, 1 (B) 2, 8, 2 (C) 2, 8, 3 (D) 2, 8, 5



57. In order of quality of coal the four main varieties of coal can be graded from superior to inferior as:

- (A) peat, bituminous, lignite, anthracite
- (B) bituminous, peat, lignite, anthracite
- (C) anthracite, bituminous, lignite, peat
- (D) lignite, anthracite, bituminous, peat

58. Which of the following is NOT true?

- (A) Spontaneous combustion takes place without any apparent cause
- (B) Luminous zone of the flame has a high temperature
- (C) Carbon dioxide gas causes global warming
- (D) Calorific value of a fuel is expressed in kJ/kg

59. If there was no carbon dioxide in the atmosphere, the earth's temperature would be:

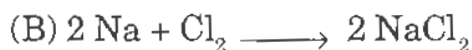
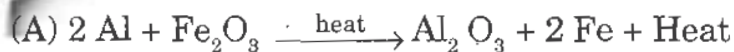
- (A) less than the present
- (B) same as present
- (C) higher than the present
- (D) dependent on oxygen content of air

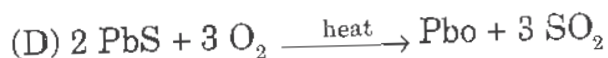
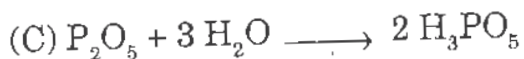
60. Arrange the following fuels in order of their calorific value starting from lower to higher.

Hydrogen, LPG, Kerosene, Petrol

- (A) L.P.G, kerosene, petrol, hydrogen
- (B) Petrol, kerosene, L.P.G, hydrogen
- (C) Petrol, L.P.G, hydrogen, kerosene
- (D) Kerosene, petrol, L.P.G., hydrogen

61. Which of the following chemical reactions is correct?





62. Which of the following is an example of a liquid fuel?

- (A) Paraffin wax                      (B) Coal gas  
(C) L.P.G                                (D) Alcohol

63. Acid rain is due to the oxides of:

- (A) sulphur and oxygen              (B) nitrogen and oxygen  
(C) sulphur and nitrogen            (D) lead and nitrogen

64. Which of the following statements is NOT true?

- (A) Any atom which loses an electron is said to be oxidised and is a reducing agent  
(B) Any atom which gains an electron is said to be reduced and the element is said to be an oxidising agent  
(C) All minerals are ores  
(D) The oxides of non-metals are neutral or acidic in nature

65. Which of the following properties of nylon make it most convenient to use?

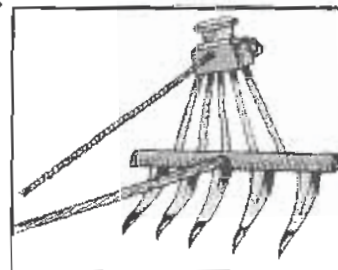
- (A) It is soft, strong and heavy  
(B) It is strong, elastic and light  
(C) It is hard, inexpensive and strong  
(D) none of the above

66. Foamite fire extinguishers cannot be used to put out electrical fires, due to the presence of:

- (A) HCl which burns with electricity  
(B) baking soda which acts as an electrolyte  
(C) dissolved  $Na_2SO_4$  which acts as an electrolyte  
(D) none of these

67. Methane burns in air to form:
- (A)  $\text{CO}_2 + \text{H}_2\text{O}$  (B)  $\text{CO}_2 + \text{H}_2$   
 (C)  $\text{CO} + \text{O}_2$  (D)  $\text{CO}_2 + \text{O}_2 + \text{heat}$
68. Polythene is produced by:
- (A) isomerization (B) polymerisation  
 (C) hydrogenation (D) all of the above
69. Which of the following statements is NOT true for sodium and potassium?
- (A) Both are metals  
 (B) Both are hard  
 (C) Both are solids at room temperature  
 (D) Both react with oxygen to form oxides
70. The burning of synthetic polymers such as plastic is not permitted because they pollute the environment by releasing:
- (A) smoke and toxic gases (B) water vapour and haze  
 (C) water vapour and smoke (D) none of these

71. Which one of these four structures is part of the other three?
- (A) Chromosome (B) Gamete (C) Nucleus (D) Gene
72. What determines the sex of a child?
- (A) Chromosome content of the ovum  
 (B) Chromosome content of the sperm  
 (C) Number of days between ovulation and fertilisation  
 (D) Number of days between fertilisation and implantation
73. Which of the following is the use of the agricultural tool given below?
- (A) It is used to put manure or fertiliser near the roots of trees  
 (B) It is used to sow the seeds at equal distances  
 (C) It is useful to remove weeds in a field  
 (D) Both A & B





74. The table given below shows a list of organisms and their methods of reproduction. What do P, Q and R represent?

Organism	Method of reproduction
Sponge	P
Planaria	Q
Hydra	R

- (A) P - Fission, Q - Budding, R - Regeneration  
 (B) P - Sporulation, Q - Regeneration, R - Budding  
 (C) P - Binary fission, Q - Sporulation, R - Regeneration  
 (D) P - Gemmules, Q - Regeneration, R - Budding
75. In the following question, a statement of assertion is given followed by a corresponding statement of reason just below it. Of the statements, mark the correct answer.

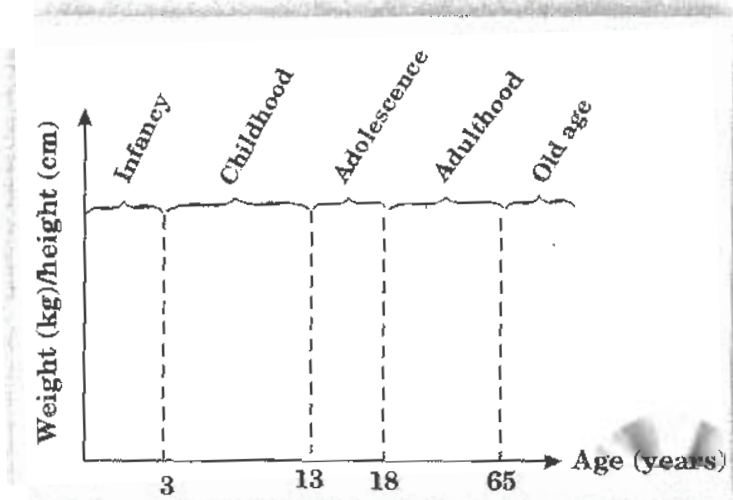
**Assertion:** *Wildlife is a renewable resource*

**Reason:** *Human activities have made several plants and animals extinct*

- (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 but reason is false  
 (D) Both assertion and reason are false
76. Which of the following comparisons between a bacterium and a virus is NOT correct?

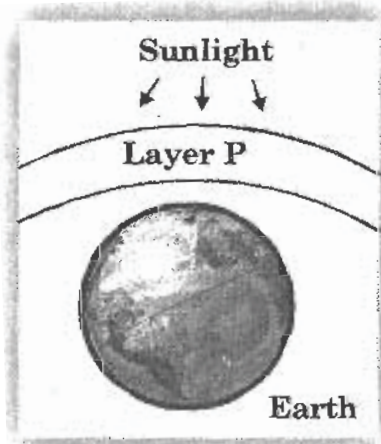
	Area of comparison	Bacterium	Virus
(A)	Size	Between 0.2 $\mu\text{m}$ - 10 $\mu\text{m}$	6 nm - 400 nm
(B)	A need for nutrients	Yes	No
(C)	Ability to form spores	Yes	No
(D)	Organisms that are infected by it	Animals only	Plants only

77.



Based on the given figure, which statement is **NOT** true about the growth of a human?

- (A) Growth occurs at different rates at different stages  
 (B) Old men show negative growth rate  
 (C) The growth rate during infancy is slower compared to during childhood  
 (D) The growth rate during adolescence is faster compared to during childhood
78. Which of the following crops are grown from October to March?  
 (A) Wheat (B) Pea (C) Mustard (D) All of the above
79. Figure below shows the position of layer P in the Earth's atmosphere that protects the Earth from over-exposure to harmful ultraviolet radiation.



Which of the following chemicals cause the thinning of layer P?

- (A) Carbon monoxide      (B) Sulphur dioxide  
(C) Chlorofluorocarbons      (D) Both A & C

80.

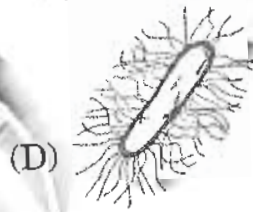
**Unicellular**

*Causes fermentation of sugary solutions*

*Respires anaerobically*

*Reproduces sexually by conjugation*

Among the following organisms which have the above characteristics?



81. Which of these activities help to maintain biodiversity?

- I *Protect endangered species*  
II *Set up forest reserves*  
III *Clear land for agriculture*

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

82. Sexual reproduction in some fish occurs when the female fish lays eggs and the male fish locates the eggs and fertilises them. What is an advantage in fertilisation outside the female's body?

- (A) Many sperms can fertilise the same egg  
(B) Many of the eggs can be fertilised at the same time  
(C) Fewer eggs and sperms are needed  
(D) The fertilised eggs can produce offspring identical to the parents



83. Which of the cell organelles carry the functions given below?

*Mechanical support*

*Enzyme circulation*

*Protein synthesis*

*Detoxification of drugs*

(A) Ribosomes

(B) Chloroplast

(C) Mitochondria

(D) Endoplasmic reticulum

84. The diagram shows a phenomenon of a natural disaster.

Which of the following is an effect of the disaster?

(A) Air pollution

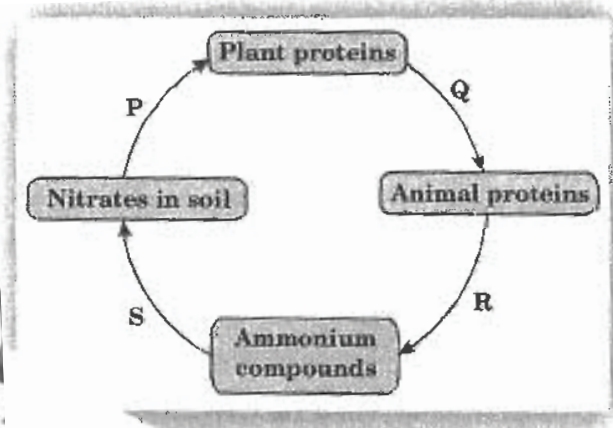
(B) Greenhouse effect

(C) Outbreak of diseases

(D) Extinction of aquatic life



85. The diagram shows some stages in the nitrogen cycle.



Which stage is carried out by bacteria?

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

86. Which of the following is a result of deforestation and the

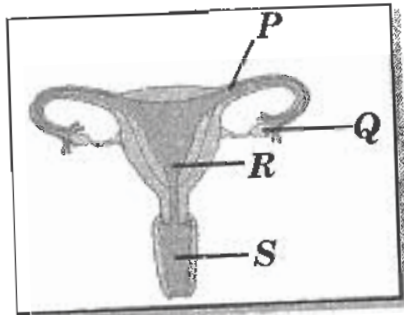
(A) Increase in humidity of air

(B) Increase in  $O_2$  in air

(C) Increase in humus in soil

(D) Increase in humus shed away

87. The diagram shows the female reproductive system. Where do fertilisation and implantation occur?



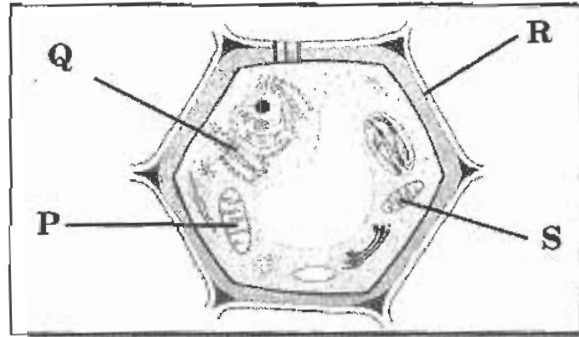
- (A) Fertilisation - P, implantation - R
- (B) Fertilisation - R, implantation - S
- (C) Fertilisation - P, implantation - Q
- (D) Fertilisation - Q, implantation - S

88. Match the following with the correct answers.

a. <i>Entamoeba histolytica</i>	i. Sleeping sickness
b. <i>Giardia</i>	ii. Malaria
c. <i>Trypanosoma</i>	iii. Amoebic dysentery
d. <i>Plasmodium</i>	iv. Giardiasis

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

89. Energy conversion within a plant cell would be severely limited by removal of which of the labelled cell organelles?



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

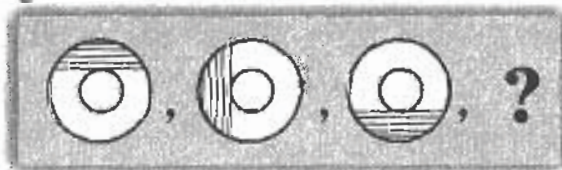
90. Which sequence is correct about the menstrual cycle based on the information given below?

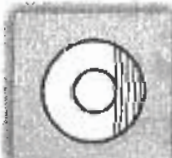



*W - The ovum dies within 24 hours after ovulation*  
*X - The uterus wall thickens with blood vessels*  
*Y - The uterus wall breaks down*  
*Z - The ovary discharges an ovum*

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

**CLASS : VIII                      GENERAL QUESTIONS**

91. What comes next in the sequence given below?



- (A)       (B)       (C)       (D) 



92. If in a certain language, FIELD is coded as GJFME, how is SICKLE coded in that code?
- (A) TJLDMF (B) RJJBKD  
(C) TJDLMF (D) TJDMLF
93. Which number should come next in the series given below?

2, 6, 14, 30, 62, ?

- (A) 124 (B) 126 (C) 132 (D) 142
94. To what distance do territorial waters of India extend in the sea?
- (A) 20 nautical miles (B) 18 nautical miles  
(C) 12 nautical miles (D) 10 nautical miles
95. From whose rule was Goa liberated, in 1961?
- (A) British (B) Portuguese  
(C) French (D) Dutch
96. The Ajantha paintings depict the events in the life of:
- (A) Buddha (B) Mahavira  
(C) Guru Nanak (D) Mughals
97. What does a Christmas Tree symbolise?
- (A) Festivity (B) Charity  
(C) Evergreen life (D) Thanks-giving
98. Who was the last viceroy of India?
- (A) Lord David (B) Lord Wavell  
(C) Lord Mountbatten (D) Wellington
99. 'Nummary' is related to:
- (A) nuns (B) priests (C) the Moon (D) coins
100. 'One World, One Dream' is the slogan of the:
- (A) London Olympics (B) Beijing Olympics  
(C) Asian Games (D) None of these

## KEY FOR THE Q.P.-2009

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