VISTO-2015 - 16

(VELAMMAL INTER SCHOOL SCIENCE TALENT OLYMPIAD)

SEASON – II

CLASS - VIII

Duration: 2hrs. **Max. Marks: 100**

INSTRUCTIONS TO THE CANDIDATE

1. a) Write your **NAME** and **CLASS** in the space provided on **OMR** Response sheet.

   b) You have to mark the answers on the **OMR** Response sheet only.

   c) You have to handle the **OMR** Response sheet with utmost care.

   d) Do not fold/mutilate or make any unnecessary markings on the **OMR** Response sheet.

   e) Use **BLUE** or **BLACK BALL POINT PEN** only to darken the appropriate circles in **OMR** Response sheet.

2. Answers marked with **PENCIL** will not be considered for evaluation.

3. This Question Paper consists of **100 QUESTIONS**, under four subject heads, **MATHEMATICS (40 Questions), PHYSICS (20 Questions), CHEMISTRY (20 Questions) and BIOLOGY (20 Questions).**

4. Each question has four alternative responses marked a, b, c, d. You have to darken the appropriate circle provided in the OMR Response sheet against each question.

5. **1 MARK** will be awarded for every correct response for all the questions in **ALL THE FOUR SUBJECTS.**

6. **NO** mark will be deducted for incorrect response.

7. Usage of Calculators, Log tables and Electronic gadgets is strictly prohibited in the examination hall.

8. Return the OMR Response sheet to the Invigilator at the end of Examination, before leaving the examination hall.

**** * * All the best * * ****

MATHEMATICS

1. A motor boat covers a certain distance downstream in a river in five hours. It covers the same distance upstream in five hours and a half. The speed of the water in 1.5 km/hr. The speed of the boat in still water is .....

   a) 30 km/hr b) 30.5 km/hr c) 31.5 km/hr d) 20 km/hr

2. **Statement I :** If $\frac{a-x^2}{bx}-\frac{b-x}{c}=\frac{c-x}{b}-\frac{b-x^2}{cx}$ then $x=\frac{b^2+c^2}{ac+b^2}$.

   Statement II : An equation is not altered if any term be transposed from one side of the equation to the other.

   a) Both statements I & II are correct

   b) Both statements I & II are incorrect

   c) Statement I is correct and statement II is incorrect

   d) Statement I is incorrect and statement II is correct

3. If the sum of two numbers is 10. One of the numbers is equal to the sum of 6 and twice the other number, then the difference between the numbers is .....

   a) $5\frac{1}{4}$ b) $8\frac{1}{2}$ c) $7\frac{1}{3}$ d) $6\frac{2}{3}$

4. The value of Z, if $Z+6.1=\frac{0.5(Z-0.4)}{0.35}-\frac{0.6(Z-2.71)}{0.42}$, is .....

   a) -2.8 b) 2.8 c) 4.2 d) -3.41

5. If $\frac{x+c}{x+1}=c+1$, then x, interms of 'c' is .....

   a) $-\frac{1}{c}$ b) c – 2 c) $\frac{c-1}{2}$ d) $\frac{c-1}{c+1}$

Reade the following paragraph and answer questions from 6 to 7:

A card is drawn from a pack of 52 cards. The probability that the card drawn is

6. A numbered card, is .....

   a) $\frac{1}{13}$ b) $\frac{1}{4}$ c) $\frac{9}{13}$ d) $\frac{1}{2}$

7. An ace card, is .....

   a) $\frac{1}{13}$ b) $\frac{2}{13}$ c) $\frac{3}{13}$ d) $\frac{4}{13}$

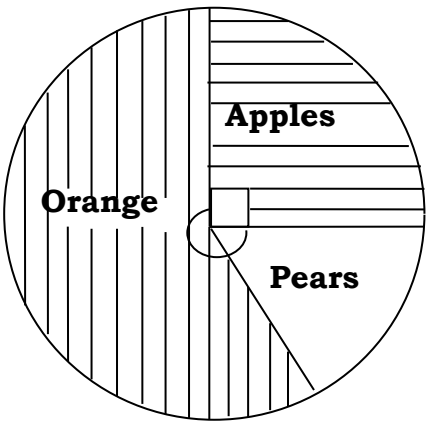
8. The pie chart shows the number of fruits sold in a store. The number of Apples is 180 and the number of Orange is 400. The angle of the sector representing the number of Pears, is .....

   a) 60^o

   b) 70^o

   c) 50^o

   d) 200^o



9. The mean of five numbers is 27. If one of the numbers is excluded, the mean gets reduced by 2. Then the excluded number is .....

a) 35 b) 27 c) 25 d) 40

10. To draw the graph of a line, the least number of points required is .....

a) One b) Two c) Three d) Four

11. Raghu borrowed Rs. 25000 at 20% p.a. compounded half yearly. What amount of money will clear his debt after $1\frac{1}{2}$ years?

a) Rs. 28275 b) Rs. 36275 c) Rs. 33275 d) Rs. 38275

12. If x% of $250+25\%$ of 68 = 67, then the value of x is .....

a) 10 b) 15 c) 20 d) 25

13. Given two positive integers x and y with x < y. By what percent is x less than y?

a) $\frac{100(y-x)}{x}$ b) $\frac{100(y-x)}{y}$ c) $\frac{100(x-y)}{y}$ d) 100(x – y)

14. A grocer purchased 80 kg of sugar at Rs. 13.50 per kg; 120 kg of sugar at Rs. 16 per kg and mixed them. At what rate should he sell the mixture (per kg) to gain 16%?

a) Rs. 15.30 b) Rs. 19.18 c) Rs. 17.40 d) Rs. 18.66

15. The value of $\frac{7.83\times7.83-1.17\times1.17}{6.66}$ is .....

a) 9 b) 6.66 c) 1.176 d) -9

Reade the following paragraph and answer questions from 16 to 17:

Let $3l(l-4m-5n)$ and $4l(10n-3m+2l)$ are algebraic expressions.

16. The sum of the above two expressions is .....

a) $11l^2-24lm+55\ln$ b) $11l^2+55\ln$

c) $11l^2-24\ln-55\ln$ d) $11l^2+24lm+55\ln$

17. When subtracting the first expression from the second expression, we get .....

a) $25lm+5l^2$ b) $25\ln+5l^2$ c) $25\ln-5l^2$ d) $25lm-5l^2$

18. **Assertion (A):** The remainder, when the polynomial $3x^2-5x+4$, divided by (x – 2), is 6.

Reason (R): If the polynomial P(x) is divided by (x – a), then the reminder is P(a).

a) Both A and R are true and R is the correct explanation of A.

b) Both A and R are true but R is not the correct explanation of A

c) A is true but R is false d) A is false but R is true .

19. Match the following :

	Column – I		Column – II
(i)	$(2x^2+3y^2)(-2x^2-3y^2)=\ldots\ldots$	p)	$-4x^2-12x^2y^2-9y^4$
(ii)	$(x^3+5)(x-5)+5=\ldots\ldots$	q)	$6x^2+3x-2xy+9y-6y^2$
(iii)	$6x^2+(x+3y)(3-2y)=\ldots\ldots$	r)	$2x^2+9xy+9y^2+2x+4y$
(iv)	$(x+3y)(2x+3y)(x+5y)+(x-y)=\ldots\ldots$	s)	$x^4-5x^3+5x-20$

a) (i) q, (ii) p, (iii) s, (iv) r b) (i) p, (ii) r, (iii) s, (iv) q

c) (i) s, (ii) r, (iii) p, (iv) q d) (i) p, (ii) s, (iii) r, (iv) q

20. If $x+\frac{1}{x}=5$, then the value of $x^4+\frac{1}{x^4}$ is ……

a) 144 b) 400 c) 236 d) 527

21. The value of the product of $\left(3+\frac{5}{x}\right)$ and $\left(9-\frac{15}{x}+\frac{25}{x^2}\right)$ at x = 1 is ……

a) 150 b) 152 c) 148 d) 140

22. The measure of the third side of a triangle, when two of its sides are a^2-2a+1 and $3a^2-5a+3$ and whose perimeter is $6a^2-4a+9$, is ……

a) $2a^2-3a-5$ b) $2a^2+3a-5$ c) $2a^2+3a+5$ d) $2a^2-3a+5$

23. It is given that $T=\frac{2\pi l}{\sqrt{l^2+g^2}}$, then the value of T, when $\pi=3.142$, $l=7.89$ and g = 9.81 is …… approximately.

a) 3.94 b) 43.9 c) 39.4 d) 4.39

24. If $\frac{17-3x}{5}-\frac{4x+2}{3}=6-6x+\frac{7x+14}{3}$, then the value of 26x is……

a) 29 b) 79 c) 119 d) 189

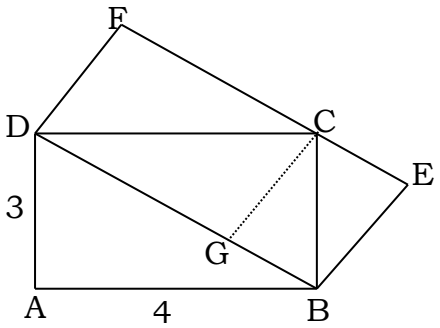
25. Two rectangles ABCD and DBEF are as shown in the figure. The area of rectangle DBEF in square units is ……

a) 10

b) 12

c) 14

d) 15



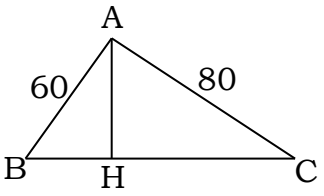
26. A wire is bent into the shape of a square of area 81sq.cm. When the same wire is bent into a semi circular shape, the area of the semi circle will be ……

a) $22\,cm^2$ b) $44\,cm^2$ c) $77\,cm^2$ d) $154\,cm^2$

27. Let ABC be a right angled triangle with $\angle BAC = 90^o$, and AH is drawn perpendicular to BC. If AB = 60 cm and AC = 80 cm, then BH = ...

a) 36 cm b) 32 cm

c) 24 cm d) 24 cm



Reade the following paragraph and answer questions from 28 to 29:

It is given that the volume of cuboid = length × breadth × height.

28. The ratio of the numerical values of the volume and the surface area of the cuboid of length 15cm, breadth 2.8cm and height 8cm is .....

a) 420 : 461 b) 461 : 420 c) 168 : 185 d) 185 : 168

29. If the length of cuboid is doubled, height is same and breadth is halved then its volume becomes .....

a) $\frac{1}{8}$ *times* the original volume b) remains same

c) double the original volume d) half of the original volume

30. The simplified form of : $\left(\frac{x^a}{x^b}\right)^{(a^2+b^2+ab)} \times \left(\frac{x^b}{x^c}\right)^{(b^2+c^2+cb)} \times \left(\frac{x^c}{x^a}\right)^{(c^2+a^2+ca)}$ is .....

a) $(a+b+c)^3$ b) $a^2+b^2+c^2$ c) 0 d) 1

31. The value of $\frac{1}{(216)^{-2/3}} + \frac{1}{(256)^{-3/4}} + \frac{1}{(32)^{-1/5}}$ is .....

a) 109 b) 107 c) 102 d) 105

32. If $x^y = y^x$, then the value of $\left(\frac{x}{y}\right)^{x/y}$ is .....

a) $x^{x/y}$ b) $x^{\frac{x}{y}-1}$ c) $x^{y/x}$ d) $x^{\frac{y}{x}-1}$

33. If $a^x = b^y = c^z$ and $b^2 = ac$, then y equals .....

a) $\frac{2xz}{x+z}$ b) $\frac{xz}{2(x-z)}$ c) $\frac{xz}{2(z-x)}$ d) $\frac{2xz}{x-z}$

34. The ratio of $\left(\frac{1}{3}\text{ of Rs. } 9.30\right)$ to (0.6 of Rs. 1.55) is .....

a) 1 : 3 b) 10 : 3 c) 3 : 10 d) 3 : 1

35. A cistern has two inlets A and B which can fill it in 12 minutes and 15 minutes respectively. An outlet C can empty the full cistern in 10 minutes. If all the three pipes are opened together when the cistern is empty, the time taken to fill the cistern completely is .....

a) 20 min b) 10 min c) 15 min d) 5 min

36. **Statement – I :** The greatest common factor of $7x,\ 21x^2$ and $14xy^2$ is 7.

Statement – II : The greatest common factor of given monomials is the common factor having greatest coefficient and highest power of the variables.

a) Both statements I & II are correct

b) Both statements I & II are incorrect

c) Statement I is correct and statement II is incorrect

d) Statement I is incorrect and statement II is correct

37. The value of $\sqrt{40+\sqrt{69+\sqrt{131+\sqrt{155+\sqrt{196}}}}}$ is k then the value of $\sqrt{k^2-1}$ is .....

a) $2\sqrt{3}$ b) $3\sqrt{3}$ c) $4\sqrt{3}$ d) $5\sqrt{3}$

38. Mr.Raj drives a car at 56kmph and complete his journey in 4 hours. If he drives at 64kmph the time taken by him to complete the journey, will be .....

a) $3\frac{1}{2}\text{hrs}$ b) $3\frac{3}{4}\text{hrs}$ c) $2\frac{2}{5}\text{hrs}$ d) $3\frac{4}{7}\text{hrs}$

39. The factors of $4a^2-4ab+b^2-9c^2+12cd-4d^2$, are .....

a) $(2a-b-3c-2d),(2a+b+3c+2d)$ b) $(2a-b+3c+2d),(2a+b-3c-2d)$

c) $(2a-b+3c-2d),(2a-b-3c+2d)$ d) $(2a+b+3c-2d),(2a-b+3c-2d)$

40. Reducing the expression $\frac{a^2-b^2}{ab}-\frac{ab-b^2}{ab-a^2}$ to the lowest terms, we get .....

a) $\frac{a}{b}$ b) $\frac{a^2-2b^2}{ab}$ c) a^2 d) a – 2b

PHYSICS

41. If the length of a cube is 50 angstrom having breadth as 100 fermi and height as 5×10^{16}m, then its volume is given by

a) 25μm b) 25km c) 25mm d) 25cm

42. Select the correct statement

a) $1\text{kg/m}^3 = 1000\text{gm/cm}^3$ b) $1\text{N/m}^2 = 10\text{dyne/cm}^2$

c) $1\text{erg/cm}^3 = 10\text{J/m}^3$ d) $1\text{m/sec} = 10^3\text{cm/sec}$

43. If unit of length is doubled, the numerical value of area will become

a) doubled b) Four times c) One fourth d) Half

44. Which of the following is not the unit of time?

a) leap year b) lunar month c) solar day d) parallactic second

45. **Statement – I:** LED glows only when a high current flows through it

Statement – II: Chromium does not resist scratches

a) Both statements I and II are correct b) Both statements I and II are incorrect

c) Statement I is correct and Statement II is incorrect

d) Statement I is incorrect and Statement II is correct

46. **Statement – I:** Ceres is present in the asteroid belt between Mars and Venus

Statement – II: High tides and low tides can be noticed every twelve hours in coastal areas

a) Both statements I and II are correct b) Both statements I and II are incorrect

c) Statement I is correct and Statement II is incorrect

d) Statement I is incorrect and Statement II is correct

47. **Assertion:** During solar eclipse people living on the earth find their view of the sun blocked

Reason : Solar eclipse happens when the earth passes directly between the sun and moon

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) Assertion is false but reason is true

48. **Assertion :** In cells , electrons move from negative electrode to positive electrode

Reason: Electron has negative charge and so we can say that it flows from negative electrode to positive electrode.

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) Assertion is false but reason is true

49. Which of the following is not possible when an electric current is passed through a conducting solution?

a) Bubbles of gas may be formed on the electrodes.

b) Deposits of metals may form on electrodes

c) Change in colour of solution may occur

d) Solution may dissociate into positive ions.

50. Match both the columns and select the correct option from the codes given below

Column – I		**Column - II**
A) Zinc	-	(i) Non electrolyte
B) Eraser	-	(ii) Lemon juice
C) Citric acid	-	(iii) Prevents rusting
D) Kerosene	-	(iv) Insulator

a) A – iv, B – i, C – ii, D – iii b) A – iii, B – iv, C – ii, d – i

c) A – ii, B – i, C – iv, D – iii d) A – i, B – iii, C – ii, D – iv

51. Which of the following is a better conductor of electricity?

a) Salt water b) Sea water c) Distilled water d) Drinking water

52. Match the columns and select the correct option from the codes given below.

Column – I		**Column – II**
A) angstrom	-	(i) erg
B) amu	-	(ii) micron
C) electron volt	-	(iii) tonne
D) shake	-	(iv) decade

a) A – iii, B – i, C – iv, D – ii b) A – iii, B – i, C – ii, D – iv

c) A – ii, B – iii, C – i, D – iv d) A – iv, B – i, C – ii, D - iii

53. Identify the planet which is sometimes regarded as Earth's sister planet

a) Venus b) Mars c) Jupiter d) Mercury

54. The constellation whose Indian name is "Laghu Saptarishi" is

a) Ursa major b) Ursa minor c) Orion d) Scorpius

55. All the stars and constellation in the sky

a) Appear to move from east to west b) Appear to move from west to east

c) Appear to be stationary d) Appear to be in rotation

56. When a light ray is reflected repeatedly by a set of parallel plane mirrors, the intensity of light rays decreases after some reflections. This is because of

a) Poor reflection from mirrors b) Absorption of some amount of light by mirrors

c) Dispersion of light when the rays travel through the atmosphere

d) Scattering of light by the mirrors

57. A series of fast moving still pictures can create an illusion of movement because

a) The eye can focus on very rapidly changing pictures b) Eye is quicker than brain

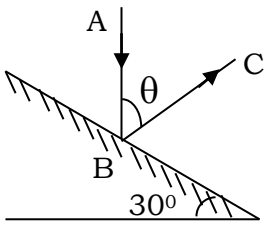
c) Eye can separate two images only when the interval of separation between them is one sixteenth of a second

d) The optical cortex can see through the rapidly moving images.

58. The part of eye that keeps the interior part of the eye ball dark by preventing internal reflections

a) Optic nerve b) Cornea c) Choroid d) Iris

59. A light ray is made to incident on a plane mirror inclined at 30^0 as shown along the path AB vertically. After reflection the light ray moves along path BC making an angle θ with AB. The value of θ is



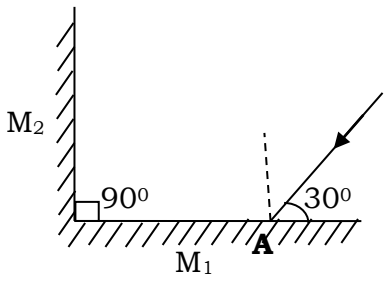
a) 45^0

b) 30^0

c) 60^0

d) 15^0

60. Two plane mirrors M_1 and M_2 are kept at right angles to each other as shown. A light ray is made to incident at a point A on mirror M_1 as shown. Now the angle with which the light ray gets reflected after reflection from mirror M_2



a) 30^0

b) 60^0

c) 90^0

d) 45^0

CHEMISTRY

61. Match the column I with column II and select the correct answer from the codes given below.

	Column – I		**Column – II**
(P)	Coke	i)	Fuel
(Q)	Coal gas	ii)	Manufacture of steel
(R)	Coal tar	iii)	Manufacture of dyes, drugs etc.,

a) P (i), Q (ii), R (iii) b) P (ii), Q (iii), R (i)

c) P (ii), Q (i), R (iii) d) P (i), Q (iii), R (ii)

62. Among the following. the gas which is used as a starting material for the manufacture of a number of chemicals and fertilizers and also can be easily transported through pipes is

a) Coal gas b) Hydrogen gas c) L.P.G. d) Natural gas

63. Select the correct statements among the following.

(i) Due to its commercial importance petroleum is also called black gold

(ii) Bitumen is used for metalling the roads

(iii) Some inexhaustible natural resources like coal, petroleum & natural gas formed from dead remains of living organisms are known as fossil fuels.

(iv) In the oil wells natural gas forms the top most layer, followed by oil & water.

a) (i) & (ii) b) (i), (ii) & (iv) c) (i), (ii) & (iii) d) (i), (iii) & (iv)

64. Read the given statements and select the correct option.

Statement I : Petroleum & natural gas cannot be prepared in the laboratory.

Statement II : Formation of both petroleum and natural gas is a slow process and conditions required can't be created in the laboratory.

a) Both statements I & II are true and II is the correct explanation of statement I

b) Both statements I & II are true but statement II is not the correct explanation of statement I

c) Statement I is true & statement II is false

d) Statement II is true & statement I is false

65. Match the column I with column II & select the correct option from the codes given below.

	Column – I		**Column – II**
(P)	LPG	(i)	Paints
(Q)	Bitumen	(ii)	Ointments
(R)	Paraffin wax	(iii)	Solvent for dry cleaning
(S)	Petrol	(iv)	Fuel for home

a) (P) (i), (Q) (iii), (R) (iv), (S) (ii) b) (P) (ii), (Q) (i), (R) (iii), (S) (iv)

c) (P) (iv), (Q) (i), (R) (ii), (S) (iii) d) (P) (iv), (Q) (i), (R) (iii), (S) (ii)

66. Among the following which has higher calorific value?

a) wood b) petrol c) methane d) LPG

67. Which of the following statements are true?

I) Calorific value of liquid or gaseous fuels is higher than that of solid fuels

II) Luminous zone contains unburnt carbon particles

III) The substances which vapourise during burning can give flames

IV) The non Luminous zone has lowest temperature

a) I, II & III b) I, II & IV c) II, III & IV d) I, III & IV

68. Good fuels have

a) High ignition temperature & high calorific value

b) Low ignition temperature & high calorific value

c) High ignition temperature & low calorific value

d) Low ignition temperature & low calorific value

69. Which among the following is the main cause of acid rains?

a) Incomplete combustion of fuels release carbon monoxide which dissolves in rainwater to give acid rains

b) Oxides of nitrogen & sulphur released during combustion of fuels dissolve in rain water to give acid rains

c) Wood when burnt in open releases methane and other gases which cause acid rains

d) Carbon particles which are released in the atmosphere dissolve in rain water to give acid rains

70. The gas which is released by incomplete combustion of fuels is

a) CO_2 b) Hydrogen c) CO d) CH_4

71. Match List – I with List – II.

	List – I (Chemical Name)		**List – II (Uses)**
(i)	Sodium carbonate	(P)	Manufacture of cement & glass
(ii)	Calcium oxide	(Q)	Preparation of chalk pieces
(iii)	Sodium bicarbonate	(R)	Fire extinguisher & preparation of baking powder
(iv)	Calcium carbonate	(S)	Water softner

a) (i) S, (ii) P, (iii) R, (iv) Q b) (i) P, (ii) Q, (iii) R, (iv) S

c) (i) R, (ii) P, (iii) Q, (iv) S d) (i) R, (ii) Q, (iii) P, (iv) S

72. Select the correct statements among the following.

(1) Hydro fluoric acid dissolves glass

(2) An average adult body contains 150 g of salt

(3) At room temperature ceasium & gallium exist as liquids

(4) The metal with highest melting point is tungsten

a) All are correct b) 1, 2 & 3 are correct

c) 1 & 4 are only correct d) 1, 3 & 4 are correct

73. The isotope of hydrogen that contains the same number of protons and neutrons in its nucleus is called

a) Protium b) Deuterium c) Tritium d) Helium Ion

74. Among element X (2, 8, 6) and Y(2, 8, 8) which is more reactive and why?

a) X, because it is a metal b) Y, because it is a non metal

c) X, because it has 6 valence electrons d) Y, because it is a gas

75. The e/m value for cathode rays

a) varies with the nature of the gas b) does not vary with the nature of gas

c) could not be determined by J.J. Thomson d) both (b) and (c) are correct

76. An atom has a mass number of 14 and it has 8 neutrons. It is an

a) isotope of oxygen b) isobar of oxygen

c) isotope of carbon d) isobar of carbon

77. Carbon and oxygen combine to form two oxides, carbonmonoxide and carbondioxide in which the ratio of the weights of carbon and oxygen is respectively 12 : 16 and 12 : 32. This data illustrates the

a) Law of multiple proportions b) Law of reciprocal proportions

c) Law of conservation of mass d) Law of constant proportions

78. The ratio of specific charge of a proton and an α-particle is

a) 1 : 1 b) 1 : 2 c) 1 : 4 d) 2 : 1

79. Defining 1 amu as 1/12 of the mass of a ${}^{12}_{6}C$ atom means that protons and neutrons have a mass of 1 amu per each particle where

a) Atom as a whole is electrically neutral

b) 'C' atom contains equal number of protons and neutrons

c) The mass of an electron is negligible when compared with the mass of proton and neutrons.

d) Neutrons are slightly heavier than protons

80. Which of the following is not a compound?

a) common salt b) marble c) sugar d) coal

BIOLOGY

81. How many of the following cells are monokaryotic?

I) Mature R.B.C. II) Smooth muscle cell III) Meristematic cell

IV) Fiber cell V) Nerve cell VI) Sperm cell

a) 2 b) 4 c) 6 d) 3

82. What are the structures that keep the living cell in a dynamic state?

A) E.R. B) Golgi C) Lysosomes D) Mitochondria

E) Ribosomes F) Nucleus G) Protoplasm

a) A, B, C & E only b) D, F & G only c) 'D' only d) All

83. Match the following :

	Column – I		**Column – II**
I)	Vacuoles	(A)	Located between plasma membrane and nuclear membrane
II)	Plastids	(B)	Repository structures
III)	Lysosomes	(C)	Krebs cycle
IV)	Golgi	(D)	Exclusive organelles of plant cell
V)	Mitochondria	(E)	Enzyme pockets
VI)	E.R.	(F)	Involved in cell wall formation

	I	**II**	**III**	**IV**	**V**	**VI**		**I**	**II**	**III**	**IV**	**V**	**VI**
a)	B	D	E	C	F	A	b)	D	C	E	B	F	A
c)	B	D	E	F	C	A	d)	C	A	B	D	E	F

84. Identify the single membrane bounded, cell organelles found in a typical matured plant cell.

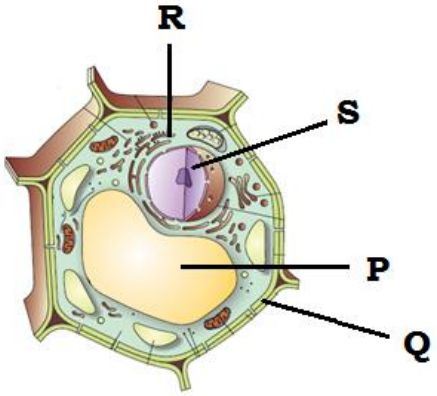
I. Ribosomes II. Lysosomes III. Mitochondria IV. Dictyosomes

V. E.R. VI. Chloroplast VII. Peroxisomes

a) II, IV, V & VII b) I, II, IV, V & VII

c) I, II, III & IV d) II, III, IV, V, VI & VII

85. Observe the following figure.



Identify the correct set with functions (or) related statements of labelled parts **P, Q, R & S.**

a) (P) Store house of metabolic bye products

(Q) Outermost living layer of both plant and animal cells.

(R) Protein factories are embedded on their surface.

(S) Most important structure absent in bacteria.

b) (P) Found in only prokaryotic cells.

(Q) Respiratory cell organelles

(R) Connects adjacent plant cells.

(S) Kills its own structures.

c) (P) Absent in all animal cells.

(Q) Photosynthetic cells organelle.

(R) Helps in intracellular transportation.

(S) Cell junctions.

d) (P) It gives placement for all cell organelles.

(Q) These are universal cell organelles.

(R) Exclusive structures of plant cell.

(S) Discovered by K.R. Porter.

86. Pick the incorrect statement from the following.

a) Bacterial cells covered by several flagella around the cell wall are called peritrichous bacteria

b) Nucleoid represents the position of nucleus

c) Chromosome of bacteria made up of D.N.A. & histone proteins

d) Infoldings of plasma membrane depicts mesosomes in *E.coli*

87. Membrane bound cell-organelles are absent in

a) *Rhizobium* b) *Rhizopus* c) *Nostoc* d) Both a & c

88. Find the unrelated statements of wind contamination.

I) Substances released from volcanic eruptions II) Exhausts of thermal power plants

III) CFCs IV) Sewage composed of heavy organic matter

V) Ganga action plan launched in 1985 VI) Biological oxygen demand

a) I, II & III b) IV, V & VI c) I, IV & VI d) All

89. What events take place while increasing the concentration of sewage waste in normal water body?

A) Decreases its organic concentration B) Increase of dissolved oxygen

C) Increase of B.O.D. D) Fall of D.O.

E) Raise of biodiversity F) Decline of aquatic life

a) A, B, C & D only correct b) D, E & F only correct

c) C, D & F only correct d) All are correct

90. Which green house gas, plays a vital role in causing harm to atmosphere?

a) CO_2 b) N_2O c) CH_4 d) CFCs

91. A couple have two daughters and no sons. The probability of having a son in the third issue will be

a) 100% b) 75% c) 50% d) 0%

92. In male human beings testes are located in scrotal sacs outside the abdomen, whereas in females ovaries are inside the abdomen. The most valid reason for this could be

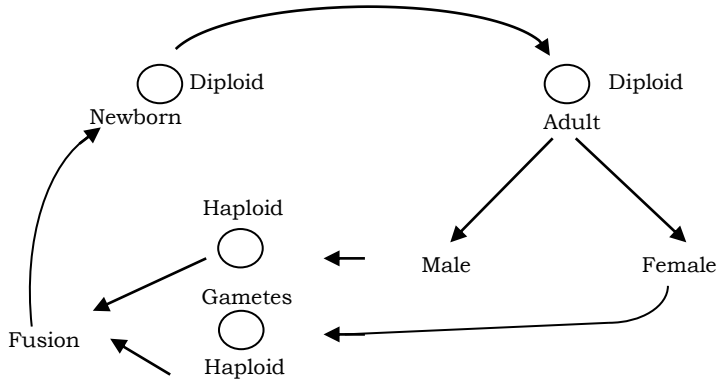
a) There is no space in the abdomen for testes in males

b) It will be easier to inseminate if they are nearer to penis

c) Sperm production requires lesser temperature than the body temperature

d) It will be easier to testosterone hormone to reach into testes from pituitary gland

93. Reproduction is often connected with a shift from haploid to diploid or the other way round. Study the chart depicted and find the correct organism related.



a) Amoeba with respect to binary fission b) Hydra with respect to budding

c) Sponges with respect to Gemmation

d) Human being with respect to giving birth to babies

94. In an experiment, when an endocrine gland is removed from the tadpole larvae of frog, the metamorphosis process was stopped. However upon transferring these larvae in to iodine rich water, all the larvae transformed into adults. The gland removed in this case could be

a) Pancreas b) Adrenal gland c) Pituitary gland d) Thyroid gland

95. In human beings, the sex determination of the child mainly depends on

a) The fertilizing egg of mother b) The fertilizing sperm of father

c) The site of fertilization (in fallopian tube or uterus)

d) The time of delivery (in the day or night)

96. Study the following statements about human reproductive system of which few are true where as others are false.

(I) Ovulation occurs on the 14th day in a woman with 28 days of menstrual cycle pattern

(II) Testosteron is responsible for secondary sexual characters in girls

(III) Test tube babies are those who are conceived through IVF technique and fully developed in a test tube itself

(IV) The fertilized egg (ovum) implants itself in the uterine wall

(V) Identical twins are borne when two sperms fuse with a single egg

Indicate your answer by using + (true) and – (false) for these statements in the same sequential order (I to V).

a) + – – + – b) + + – – + c) – + – + + d) – – + + –

97. Observe the following structures related to human reproduction.

(Q) Fallopian tube (R) Vagina (S) Urethra of Penis (T) Testes (U) Uterus

Which of the following represents the correct route for sperm migration starting from its production site to the site of fertilization?

a) QRSTU b) TSRQU c) TSRUQ d) TSURQ

98. Stoppage of menstrual cycle may be an indication of pregnancy in an adult woman. How does a new menstrual cycle become initiated when fertilization fails to occur?

a) The nervous system detects the absence of implantation and passes signals to uterine wall to break down

b) When the unfertilized ovum starts disintegrating, the hormonal levels of progesteron are dropped, resulting the menstruation

c) The ovary passes signals directly to the uterus to shed the uterine wall

d) The unused sperms in the uterus initiate the breaking down and shedding of uterine wall

Read the passage carefully and answer the questions that follow :

Union of male and female gametes to form a diploid zygote is called fertilization. During sexual reproduction the fertilization may occur inside the body of the female animal or outside the body. Females may lay eggs or directly give birth to the young ones.

99. In a mammal fertilization occurred inside the body and the gravid female laid eggs from which the young one came out after hatching. The organism could be

a) Horse b) Dog c) Platypus d) Cat

100. In the above case, the event can be named ..... & the organism is called .....

a) External fertilization & oviparous b) Internal fertilization & oviparous

c) External fertilization & viviparous d) Internal fertilization & viviparous

* * * * *

VISTO-2015 - 16

SEASON - II ANSWER KEY

TO

CLASS - VIII

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