VELAMMAL

KNOWLEDGE PARK

BODHI CAMPUS - PONNERI

MERIT

SCHOLARSHIP TEST

SAMPLE PAPER

Class : (X – XI)

MATHEMATICS

1. A triangle has sides 10cm, 17cm and 21cm. A square is inscribed in the triangle. One side of the square lies on the longest side of the triangle. The other two vertices of the square touch the two shorter sides of the triangle the length of the side of the square is

   a) $\frac{21}{29}cm$ b) $\frac{85}{29}cm$ c) $\frac{168}{29}cm$ d) $\frac{42}{29}cm$

2. Two circles with radii a and b touches (a > b) each other externally. Let c be the radius of a circle which touches these two circles as well as a common tangent to the two circles then the relation between a, b and c is

   a) $\frac{1}{\sqrt{c}}=\frac{1}{\sqrt{a}}+\frac{1}{\sqrt{b}}$ b) $\frac{1}{c^2}=\frac{1}{a^2}+\frac{1}{b^2}$ c) $c^2=a^2+b^2$ d) $2c=a+b$

3. If 2x + 3y = 7 and (p + q) x + (2p-q) y = 3(p +q+1) has infinitely number of solutions then the value of p and q are

   a) 2, 3 b) 5, 7 c) 5, 2 d) 5, 1

4. A train takes 2 hours less for a journey of 300km of its speed is increased by 5km/hr from its usual speed. What is the usual speed of the train is

   a) 60km/hr b) 25km/hr c) 120km/hr d) 70km/hr

5. Which term of he sequence $20,19\frac{1}{4},18\frac{1}{2}.....$ is the first negative term

   a) 29 b) 30 c) 27 d) 28

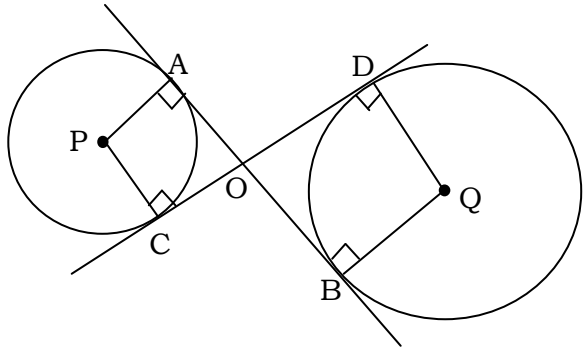
6. The sum of te series

   3 + 5 + 7 + 6 + 9 + 12 + 9 + 13 + 17 + ….. 30 terms is

   a) 720 b) 690 c) 830 d) 920

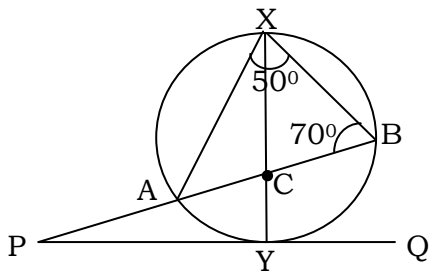
7. In the given figure the diameter of two wheels have measure 2cm and 4cm determine the length of the belts AB and CD that from around the wheels. If it is given that the belt cross each other at right angle.

   a) AB = 5cm, CD = 4cm
   b) AB = 2cm, CD = 4cm
   c) AB = 20cm, CD = 1cm
   d) AB = CD = 3cm



8. In the adjoining figure, XY is a diameter of the circle, PQ is a tangent to the circle at Y given that $\angle AXB=50^0$ and $\angle ABX=70^0$ then $\angle APY$ is

   a) 35^0
   b) 20^0
   c) 15^0
   d) 10^0



9. If $\cos\theta+\sin\theta=\sqrt{2}\cos\theta$ then $\cos\theta-\sin\theta$ is

   a) $-\sqrt{2}\sin\theta$ b) $-\sqrt{2}\cos\theta$ c) $\sqrt{2}\cos\theta$ d) $\sqrt{2}\sin\theta$

10. If $\tan A=n\tan B$ and $\sin A=m\sin B$ then $\cos^2 A$ is

    a) $\frac{m^2-1}{n^2-1}$ b) $\frac{n^2-1}{m^2-1}$ c) $\frac{2m}{1+m^2}$ d) $\frac{2n}{1+n^2}$

11. If three tangents are drawn to a circle, then the chance that the circle being inscribed in the triangle thus formed is

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

12. **Statement - I:** If α, β are the roots of $x^2 - x + 6 = 0$ then $\alpha^4\beta + \beta^4\alpha = -102$

Statement – II: If α, β are the roots of $ax^2 + bx + c = 0$ then $\alpha + \beta = \frac{-b}{a}$ and $\alpha\beta = \frac{c}{a}$

a) Statement-I and Statement-II are true
b) Statement-I and Statement-II are false
c) Statement-I is true, but Statement-II is false
d) Statement-I is false, but Statement-II is true

13. **Statement – I:** If the roots of $(c^2 - ab)x^2 - 2(a^2-bc)x + (b^2-ac) = 0$ are equal then $a^3 + b^3 + c^3 - 3abc = 0$ or $a = 0$

Statement – II: If the roots of $ax^2 + bx + c = 0$ are equal then $b^2 = 4ac$.

a) Statement-I and Statement-II are true
b) Statement-I and Statement-II are false
c) Statement-I is true, but Statement-II is false
d) Statement-I is false, but Statement-II is true

14. **Statement – I:** If S_n denotes the sum of n terms of an A.P. then $S_{n+3} - 3S_{n+2} + 3s_{n+1} - S_n = 4n+6$

Statement – II: If $a_n = n^2 + n$ then $S_n = n^2 + 3n + 2$

a) Statement-I and Statement-II are true
b) Statement-I and Statement-II are false
c) Statement-I is true, but Statement-II is false
d) Statement-I is false, but Statement-II is true

15. If α, β are the roots of $ax^2 + bx + c = 0$ and $\alpha + k, \beta + k$ are the roots of $Ax^2 + 2Bx + C = 0$ then $\frac{b^2 - ac}{B^2 - Ac}$ is

a) $\left(\frac{C}{A}\right)^2$ b) $\left(\frac{A}{C}\right)^2$ c) $\left(\frac{A}{a}\right)^2$ d) $\left(\frac{a}{A}\right)^2$

16. **Statement - I :** If $\tan\theta = \frac{1}{\sqrt{3}}$ then $7\sin^2\theta + 3\cos^2\theta = 4$.

Statement – II: $\sin^2\theta + \cos^2\theta = 1$

a) Both statements are true b) Both statements are false
c) Statement - I is true, Statement – II is false
d) Statement – I is false, Statement – II is true

17. The remainder obtained when x^{2009} is divided by $x^2 - 1$ is

a) x^2 b) x c) x + 1 d) –x

18. If $f(x) = px^7 + qx^3 + rx - 5$ where p, q, r are constants if f(-7) = 7 then f(7) is

a) 17 b) 18 c) -18 d) -17

19. Match the following:

	COLUMN – I		**COLUMN - II**
A)	Median of $\frac{x}{5}, x, \frac{x}{4}, \frac{x}{2}, \frac{x}{3}$ is 8. If x > 0 then the value of x is	P)	25
B)	If the mode of a data is 18 and the mean is 24 then median is	Q)	22
C)	The mean of 9 items is 15. If one more items is added to the series then the mean becomes 16 the value of 10^{th} item is	R)	24
D)	The mean of 10 observation is 16.3 by a error one observation is registered as 32 instead 23 then the correct mean is	S)	15.7
		T)	22

	(A)	**(B)**	**(C)**	**(D)**		**(A)**	**(B)**	**(C)**	**(D)**
a)	T	P	R	Q	b)	R	P	S	T
c)	R	T	P	Q	d)	R	S	T	Q

20. Two numbers both greater than 29 have H.C.F 29 and LCM 4147 the sum of the numbers is
a) 666 b) 669 c) 966 d) 696

21. What is the remainder when 1!+ 2!+3! +..... 2019! is divisible by 24
a) 5 b) 7 c) 12 d) 9

22. If $\sec\theta + \tan\theta = p(p \neq 0)$ then $\sin\theta$ is
a) $\frac{p^2-1}{p^2+1}$ b) $\frac{2p}{p^2+1}$ c) $\frac{2p}{p^2-1}$ d) $\frac{p^2+1}{p^2-1}$

23. If $\frac{x}{r} = \cos\alpha\cos\beta\cos\gamma$, $\frac{y}{r} = \cos\alpha\cos\beta\sin\gamma$, $\frac{z}{r} = \sin\alpha\cos\beta$, $\frac{\mu}{r} = \sin\beta$ then $\frac{2\left(x^2+y^2+z^2+\mu^2\right)}{r^2}$ is
a) 1 b) 2 c) 3 d) 4

24. In a ΔABC, 3tan A + 4 = 0 then the quadratic equation where roots are sec A and cosec A is (A lies in 4th quadrant)
a) $12x^2 + 5x - 25 = 0$ b) $12x^2 + 5x + 25 = 0$
c) $12x^2 - 5x - 25 = 0$ d) $12x^2 - 5x + 25 = 0$

Paragraph type question (for Q.No – 25- 26):

In a hospital there are 40 doctors and 50 nurses. $\frac{1}{4}th$ of the number of doctors and $\frac{1}{2}$ of the number of nurse are residents. If a person is randomly selected from the hospital.

25. Find the probability of getting a person resident doctor or a nurse is
a) $\frac{2}{3}$ b) $\frac{4}{5}$ c) $\frac{1}{2}$ d) $\frac{7}{6}$

26. Find the probability of getting a doctor or a resident
a) $\frac{14}{17}$ b) $\frac{17}{15}$ c) $\frac{13}{18}$ d) $\frac{17}{19}$

27. Two students A and B solve a problem with probabilities $\frac{2}{3}$ and $\frac{1}{4}$ respectively. What is the probability that atleast one of them solve the problem.
a) $\frac{7}{12}$ b) $\frac{1}{4}$ c) $\frac{2}{3}$ d) $\frac{1}{2}$

28. If A is the A.M of the roots of the equation $x^2 - 2ax + b = 0$ and G is the G.M of the roots of the equation $x^2 - 2bx + a^2 = 0$ (a > 0) then
a) A = G b) $A \neq G$ c) A > G d) A < G

29. The number of real roots of $\left(x+\frac{1}{x}\right)^3 + \left(x+\frac{1}{x}\right) = 0$ is
a) 0 b) 1 c) 2 d) 3

30. If the difference between mean and mode is 63. Then the difference between mean and median is
a) 21 b) 31 c) 48.5 d) 189

31. If a + b + c = 0 then a^2 - bc is
a) ab + bc + ca b) –(ab + bc + ca) c) $a^2 + b^2 + c^2$ d) 0

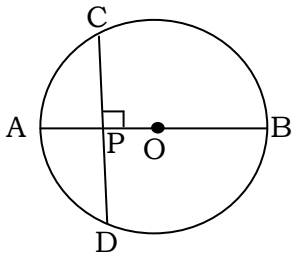
32. A cubic polynomial of such that f(1) = 1, f(2) = 2, f(3) = 3 and f(4) = 5 then f(6) is
a) 6 b) 7 c) 10 d) 13

33. Real numbers x, y, z satisfying the equations x + y + z = 28 and $\frac{1}{x}+\frac{1}{y}+\frac{1}{z} = 26$ then the value of $\frac{x}{y}+\frac{y}{z}+\frac{z}{x}+\frac{x}{z}+\frac{z}{y}+\frac{y}{x}$ is
a) 625 b) 735 c) 728 d) 725

34. The adjacent sides of a parallelogram are 2a and a. If the angle between them is 60^0, then one of the diagonals of the parallelogram is

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

35. AB = 2r is the diameter of a circle of a chord CD intersect AB at right angle at the point P in the ratio 1 : 2 then CD is equal to



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

36. Match the following

	Column – I		**Column - II**
(A)	The value of $\sin^2 29^0 + \sin^2 61^0$ is	P)	-1
(B)	$2\left(\sin^6\theta+\cos^2\theta\right)-3\left(\sin^4\theta+\cos^4\theta\right)$ is	Q)	0
(C)	If $3\cos\theta-4\sin\theta=5$ then $3\sin\theta+4\cos\theta$ is	R)	2
(D)	The value of $(1+\cot\theta-\operatorname{cosec}\theta)(1+\tan\theta+\sec\theta)$ is	S)	$\sin^2 75^0+\cos^2 75^0$

	(A)	**(B)**	**(C)**	**(D)**		**(A)**	**(B)**	**(C)**	**(D)**
a)	P	S	Q	R	b)	S	P	Q	R
c)	R	S	Q	P	d)	S	R	P	Q

37. Match the following:

	COLUMN – I		**COLUMN - II**
A)	$x^4 - 4x^3 + 10x^2 - ax + b$ is a perfect square then	P)	a = 12
B)	$x^4 + 6x^3 + 17x^2 + 2ax + 16$ is a perfect square then	Q)	b = 9
C)	If $4x^4 - 12x^3 + 29x^2 - 30x + a$ is a perfect square then	R)	a = 25
D)	$x^4 - 4x^3 + 20x^2 + ax + b$ is a perfect square then	S)	a = -32
		T)	b = 64

	(A)	**(B)**	**(C)**	**(D)**		**(A)**	**(B)**	**(C)**	**(D)**
a)	P, Q	P	R	S, T	b)	P	S	T	Q, T
c)	Q, R	S	S, T	P	d)	Q	S	R, T	P

Comprehension type (for (Q.No- 38 – 40):

Let P(x) by any polynomial of degree greater than or equal to 1 and 'a' be any real number, then

(i) (x – a) is a factor of p(x) if p(a) = 0; and

(ii) p(a) = 0 if (x- a) is a factor of p(x).

Based on the above data answer the following questions.

38. The polynomial $f(X) = x^4 - 2x^3 + 3x^2 - ax + b$ when divided by (x – 1) and (x + 1) leaves the remainders 5 and 19 respectively. Then the remainder when f(x) is divided by (x – 2) is

a) 5 b) 8 c) 10 d) 20

39. The expression $ax^2 + bx + c$ equals -2 when x = 0, leaves remainder 3 when divided by (x – 1) and a remainder -3 when divided by (x + 1). Then the values of a, b are respectively.

a) 2, 3 b) -2, 3 c) 2, -3 d) -2, -3

40. If the quotient of $x^4 - 11x^3 + 44x^2 - 76x + 48$, when divided by $x^2 - 7x + 12$ is $Ax^2 + Bx + C$, then the descending order of A, B, C is

a) A, B, C b) B, C, A c) A, C, B d) C, A, B

PHYSICS

41. Two electric bulbs, rated at (25w, 220v) and (100w, 220v) are connected in series across a 220v voltage source. If the 25w and 100w bulbs draw powers P_1 and P_2 respectively, then

a) P_1 = 9w, P_2 = 16w b) P_1 = 16w, P_2 = 4w

c) P_1 = 4w, P_2 = 16w d) P_1 = 16w, P_2 = 9w

42. In a car race, car A takes time 't' less than car B and passes the finishing point with a velocity V more then the velocity with which car B passes the point. Assuming that the cars start from rest and travels with constant accelerating a_1 and a_2. Then the value of v/t is

a) $\sqrt{a_1 a_2}$ b) $\sqrt{\frac{a_1}{a_2}}$ c) $\sqrt{a_1 + a_2}$ d) $a_1 a_2$

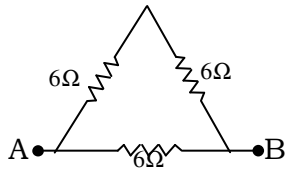
43. A particle is moving along a circular path with a constant speed of 10m/s. What is the magnitude of the change in velocity of the particle, when it moves through an angle of 60^0 around the centre of circle?

a) 0 b) 10m/s c) $10\sqrt{3} m/s$ d) $10\sqrt{2} m/s$

44. Two equal resistance when connected in series to a battery, consume electric power of 60w. If these resistance are now connected in parallel combination to the same battery. The electric power consumed is

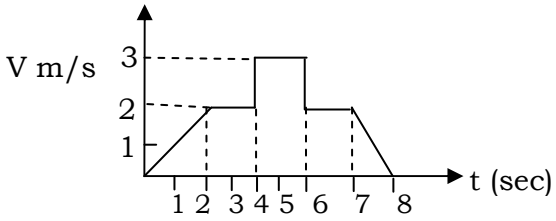
a) 60w b) 240w c) 30w d) 120w

45. A uniform metallic wire has a resistance of 18Ω and is bent into an equilateral triangle. Then the resistance between any two vertices of the triangle.



a) 8Ω
b) 12Ω
c) 4Ω
d) 2Ω

46. A particle starts from the origin at time t = 0 and moves along the x – axes the graph of velocity with respect to time is shown in fig. What is the position of particle at time t = 5sec?

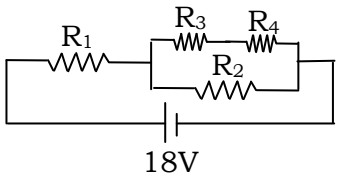


a) 6m
b) 9m
c) 3m
d) 10m

47. A copper wire is stretched to make it 0.5% longer, the percentage change in its electrical resistance of its volume remains unchanged is

a) 2.5% b) 0.5% c) 1.0% d) 2.0%

48. In the given circuit, the internal resistance of the 18v cell is negligible. If $R_1 = 400\Omega$, $R_3 = 100\Omega$ and $R_4 = 500\Omega$ and the reading of an ideal volt meter across R_4 is 5v then the value R_2 is

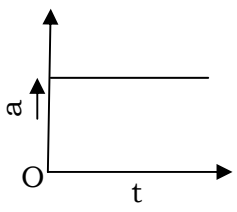


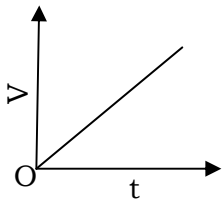
a) 300Ω
b) 230Ω
c) 450Ω
d) 550Ω

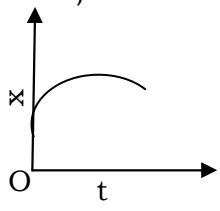
49. A bullet of mass 20g has an initial speed of 1m/s. Just before it starts penetrating a mud wall of thickness 20cm. If the wall offers a force of $2.5\times10^{-2} N$. The speed of bullet after emerging from the other side of wall is (nearly)

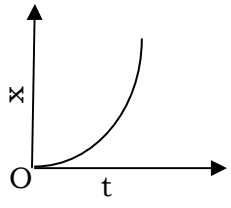
a) 0.4m/s b) 0.1m/s c) 0.3m/s d) 0.7m/s

50. A particle starts from origin 0 from rest and moves with a uniform acceleration along the +ve x-axis, identify all figures that correctly represent the motion Qualitatively (a = acceleration v = velocity x = displacement, t = time)

A)


B)


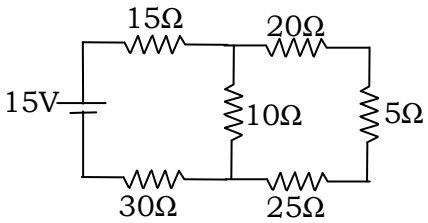
C)


S)


a) A, B, C b) A c) A, B, D d) B, C

51. In the figure shown, what is the current (in amp) drawn from the battery?

a) 7/18
b) 13/24
c) 9/32
d) 20/3



52. A wooden block floating in a bucket of water has 4/5 of its volume submerged. When certain amount of oil is poured into the bucket it is found that the block is just under the oil surface with half of its volume under water and half in oil. The density of oil relative to that of water is
a) 0.5 b) 0.7 c) 0.6 d) 0.8

53. The value of acceleration due to gravity at earth's surface is $9.8 m/s^2$ the altitude above its surface at which the acceleration due to gravity decreases to $4.9 m/s^2$ close to (Radius of earth is R)

a) $\left(\sqrt{2}-1\right)R$ b) $\left(\sqrt{2}+1\right)R$ c) $\sqrt{2}R$ d) $\frac{1}{\sqrt{2}}R$

54. A sub marine experiences a pressure of $5.05\times10^6 Pa$ at a depth of d_1 in sea. When it goes further to depth of d_2. If experiences a pressure of $8.08\times10^6 Pa$. Then $d_2 - d_1$ is close to (Density of water = $10^3 kg/m^3$ and g = $10 m/s^2$).
a) 500m b) 400m c) 300m d) 600m

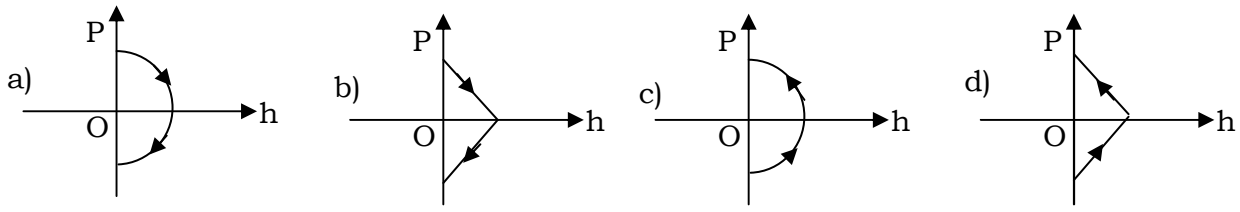
55. A cubical block of side 0.5m floats on water with 30% of its volume under water. What is the maximum weight that can be. Put on the block without fully submerging it under water.
a) 87.5kg b) 65.4kg c) 30.1kg d) 46.3kg

56. A person clapped his hands near a cliff and heard the echo after 2 sec. What is distance of the cliff from the person? (if velocity of sound is 346m/s)
a) 320m b) 346m c) 420m d) 165m

57. A bullet of mass 20 gram is horizontally fired with a velocity 150 m/s from a pistol of mass 2kg. What is the recoil velocity of the pistol?
a) 1.5 m/s b) 0.5 m/s c) 2.5 m/s d) 2 m/s

58. The ratio of the weights of a body on the earth's surface to that on the surface of a planet is 9 : 4; the mass of the planet is $\frac{1}{9}th$ of that of the earth. What is the radius of the planet (If R is Radius of earth; take the planet to have the same mass density).
a) R/3 b) R/2 c) R/4 d) R/9

59. A ball is thrown vertically up (Taken of z- axis) from the ground. The correct momentum – height (p –h) diagram is



60. An electron is projected with uniform velocity along the axis of a current carrying solenoid which of the following statement is correct?
a) The electron will be accelerated along the axis
b) The electron path will be circular about the axis
c) The electron will continue to move with uniform velocity along with axis of solenoids
d) The electron will follows a helical path

CHEMISTRY

61. Boron has two stable isotopes with mass numbers 10 and 11. Atomic mass of boron is 10.8. Then the isotopic abundance of B- 11 is
    a) 75% b) 25% c) 80% d) 20%
62. Atom X has 6 valency electrons while atom Y has 3 valency electrons in its outer most orbit. Then the formula of the compound formed between X and Y is
    a) XY_2 b) X_2Y c) X_2Y_3 d) X_3Y_2
63. The weight of Na_2SO_4 (molar mass = 142) having same number of ions present in 0.5 mol of $Al_2(SO_4)_3$ (molar mass= 342) is ……g.
    a) 118.3 b) 355 c) 213 d) 59.167
64. 3.01×10^{24} molecules of a trivalent metal sulphate have a total weight of 2137 g. Then the atomic mass of given metal is $\left[N_A = 6.02\times10^{23}\right]$
    a) 78.47 b) 46.67 c) 92.93 d) 69.7
65. 1.506×10^{22} atoms of an element has a weight of 0.8g. Its atomicity is 8. Then the molar mass of the given element is
    a) 124 b) 256 c) 158 d) 306
66. Different gases present in a given sample of purified liquid air can be separated by
    a) Chromatography b) Sublimation
    c) Atmolysis d) Fractional distillation
67. The increasing order of forces of attraction between the particles of water (I), alcohol (II), NaCl(III) and oxygen (IV) is
    a) I > III > II > IV b) III > I > II > IV c) III > II > I > IV d) II > III > I > IV
68. Number of sulphur molecules present in 6.4 g of rhombic sulphur (Atomic mass = 32 units) is ……(N$_A$ = Avogadro's Number)
    a) $0.2N_A$ b) $0.4N_A$ c) $0.1N_A$ d) $0.025N_A$
69. From purified carbonate ore, generally metal oxide is obtained by
    a) Calcination b) Roasting c) Smelting d) Froth floatation
70. Which of the following is not a correct combination of an acid regarding its natural source?

	Acid	**Natural source**
a)	Methanoic acid	Ant string
b)	Tartaric acid	Tamarind
c)	Oxalic acid	Orange
d)	Citric acid	Lemon

71. A one mole mixture of Na_2CO_3 and $NaHCO_3$ on heating produces 11g of CO_2. Then the molar ratio of Na_2CO_3 and $NaHCO_3$ in the given mixture is
    a) 1 : 1 b) 2 : 1 c) 1 : 3 d) 3 : 1
72. Which of the following is not a correct combination?
    a) Baking soda → $NaHCO_3$
    b) Washing soda → $Na_2CO_3.10H_2O$
    c) Bleaching powder → $CaOCl_2$
    d) Gypsum → $2CaSO_4.H_2O$
73. Which of the following is wrong?
    a) $Zn(s)+CuSO_4(aq)\longrightarrow ZnSO_4(aq)+Cu(s)$ b) $Pb(s)+CuCl_2(aq)\longrightarrow PbCl_2(aq)+Cu(s)$
    c) $Fe(s)+MgSO_4(aq)\longrightarrow FeSO_4(aq)+Mg(s)$ d) $K(s)+AgNO_3(aq)\longrightarrow KNO_3(aq)+Ag(s)$
74. In the following reaction,
    $FeSO_4(s)\xrightarrow{heat}A(s)+B(g)+C(g)$; the gases B and C are respectively
    a) SO_2, O_2 b) SO_3, O_2 c) Fe_2O_3, O_2 d) SO_2, SO_3
75. Which of the following on strong heating does not liberate NO_2 gas?
    a) $Pb(NO_3)_2$ b) $NaNO_3$ c) $LiNO_3$ d) $Mg(NO_3)_2$

76. In the reaction given below,

$MnO_2 + 4HCl \longrightarrow MnCl_2 + 2H_2O + Cl_2$

Which of the following statement is wrong?

a) MnO_2 is reduced b) HCl is oxidised

c) MnO_2 undergoes loss of electrons d) HCl undergoes increase in oxidation state

77. Which of the following is wrong regarding photosynthesis?

a) CO_2 is reduced b) H_2O is oxidised

c) 26.4 g of CO_2 on complete conversion gives 0.1 mole of glucose

d) All the above are wrong

78. Which of the following can liberate H_2 gas from dil. HCl as well as from dil. NaOH?

a) Mg b) Be c) Ba d) K

79. **Assertion :** Aluminium is stronger reducing agent than iron.

Reason : Aluminium is more electropositive than iron.

a) Both Assertion and Reason are true and the Reason is the correct explanation of the Assertion

b) Both Assertion and Reason are true, but the Reason is not correct explanation of the Assertion

c) Assertion is true, but Reason is false

d) Assertion is false and Reason is true

80. Which of the following is extracted by self reduction?

a) Zn b) Mg c) Cu d) Al

BIOLOGY

81. Aerobic and anaerobic respirations differ from each other in all except.

a) Involvement of oxygen b) Output of ATP molecules

c) End products d) Method of Glucose breakdown in cytosol

82. Stomatal movements are facilitated by

a) Turgor level of guard cells b) Shape of guard cells

c) Radial orientation of cellulose microfibrils d) All the above

83. If a cell increases in volume when kept in a solution, the solution must be

a) Hypotonic b) Hypertonic c) Isotonic d) Acidic

84. The hypotonc solution is that which

a) Has less concentration than that of cell sap

b) Has more concentration than that of cell sap

c) Has same concentration as that of cell sap

d) None of the above

85. Which of the following is called Antigibberellin?

a) Auxin b) ABA c) Ethylene d) Cytokinin

86. The most common method of reproduction in bacteria is

a) Binary fission b) Multiple fission c) Budding d) Spore formation

87. In potato, vegetative propagation takes place by

a) leaves b) Stem c) Root d) Seeds

88. In the embryosac of angiosperms fusion of one male gamete with the egg cell and fusion of another male gamete with secondary nucleus is called

a) Fertilisation b) Double fertilization c) Triple fertilisation d) Karyogamy

89. Chlorophylls don't absorb this wave length of light

a) Red wave length b) Green wavelength

c) Blue wavelength d) Orange wavelength

90. Which of the following statements regarding sexual reproduction is true?

a) Sexual reproduction creates an individual that is a genetic copy of one parent

b) Sexual reproduction generates greater genetic variation than asexual reproduction.

c) Sexual reproduction allows animals to expand their populations faster than asexual reproduction

d) Population of organisms that reproduce through sexual reproduction generally have difficulty adapting to changing environments.

91. Find the incorrect match with respect to muscle tissue
    a) Straited muscles → Striped and multicellular
    b) Smooth muscles → Unstriated and unicellular
    c) Cardiac muscles → Branched and Uninucleate
    d) Iris muscle of eye → Cylindrical and voluntary
92. Following are the parts of a neuron
    I) Axon II) Cell body III) Telo dendrites IV) Dendrites
    Find the correct sequential order of these structures according to the path way of nerve impulse.
    a) I II III IV b) IV III II I c) IV II I III d) III IV II I
93. The book written by Charles Darwin is
    a) Species plantarum b) Systema naturae
    c) The orgin of species 4) Philosophy zoologique
94. The animal taxon 'Phylum' is equivalent to that of ..... in plants.
    a) Class b) Species c) Division d) Sub kingdom
95. Find the incorrect statement.
    a) Jelly fish is a false fish of phylum Cnidaria b) Sea-horse is an aquatic mammal
    c) Ostrich is a flight less bird d) Hyla is a tree frog, an amphibian
96. If 46 chromosomes are present in a human cell, what will be the number of chromosomes in a human sperm or egg?
    a) 92 b) 23 c) 46 d) 64
97. Find the correct statement with respect to elephantiasis causing pathogenic parasite.
    a) Body is flat b) True coelom is present
    c) Body is radially symetrical d) Body wall is triploblastic
98. Find the incorrect statement with respect to the animals belong to the largest phylum in the Animal Kingdom.
    a) Insects belong to this phylum b) Open type of circulation
    c) An unjointed muscular foot helps in locomotion
    d) Haemocoel, blood filled body cavity is present
99. Find the oviparous (egg laying) warm blooded Vertebrate
    a) Frog b) King Cobra c) Turtle d) platypus
100. Match the following and find the correct option.

	Column – I		**Column - II**
(A)	Jawless & Scale less Vertebrates	(I)	Aves
(B)	Feathers as exoskeleton	(II)	Reptiles
(C)	Presence of external ears	(III)	Cyclostomes
(D)	Scales as exoskeleton & Shelled eggs laid outside the water	(IV)	Mammals

	(A)	**(B)**	**(C)**	**(D)**		**(A)**	**(B)**	**(C)**	**(D)**
a)	I	II	III	IV	b)	IV	III	II	I
c)	III	I	II	IV	d)	III	I	IV	II

********** THE END **********

VELAMMAL KNOWLEDGE PARK, PONNERI

VKP MERIT SCHOLARSHIP TEST 2019

(FOR STUDENTS MOVING TO CLASS–XI IN 2020)

ANSWER KEY - X (06.10.2019)

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