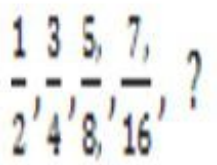
Sr No.	Integrated MSc Physics Chemistry Applied Geology
1	Which fraction comes next in the sequence
	
Alt1	9/32
Alt2	10/17
Alt3	11/34
Alt4	12/35

2	Choose the missing term out of the given options: Ac__cab__baca__aba__acac
Alt1	aacb
Alt2	acbc
Alt3	babb
Alt4	bcbb

3	Leaf is related to Sap in the same way as Bone is related……?.....
Alt1	Fluid
Alt2	Blood
Alt3	Marrow
Alt4	Calcium

4	Select the lettered pair that has the same relationship as the original pair of words: Rotate: Gyrate
Alt1	Putrefy: Reject
Alt2	Anachronism: Cubism
Alt3	Accolade: Criticism
Alt4	Absolve: Exonerate

5	Choose the alternative, which is similar to the given words: Liver : Heart : Kidney
Alt1	Blood
Alt2	Nose
Alt3	Lung
Alt4	Urine

6	Spot the defective segment from the following:
Alt1	The more you read
Alt2	the more will you
Alt3	get to know
Alt4	about more things

7	Choose the meaning of the idiom/phrase from among the options given: A rainy day
Alt1	a holiday
Alt2	a difficult time
Alt3	a fine day
Alt4	a wet day

8	The villagers plan to ------- the elections in protest.
Alt1	avoid
Alt2	ignore
Alt3	neglect
Alt4	boycott

9	Choose the option closest in meaning to the given word: PUERILE
Alt1	vulgar
Alt2	perverse
Alt3	childish
Alt4	young

10	Choose the antonymous option you consider the best: OBTUSE
Alt1	fast
Alt2	sharp
Alt3	reliable
Alt4	lucid

11	In a Cricket tournament, each of the six teams will play every other term exactly once during the league phase. How many matches will be played during the league phase in total ?
Alt1	12
Alt2	36
Alt3	15
Alt4	24

12	A walks 10 metres in front and 10 metres to the right. The every time turning to his left, he waks 5, 15 and 15 metres respectively. How far is he now from the starting point ?
Alt1	15 metres
Alt2	5 metres
Alt3	10 metres
Alt4	30 metres

13	The sum of the income of A and B is more than that of C and D taken together. The sum of the income of A and C is the same as that of b and D taken together. Moreover, A earns half as much as the sum of the income of b and D. Whose income is he highest ?
Alt1	A
Alt2	B
Alt3	C
Alt4	D

14	Five boys A, B, C, D and E are seated on a bench. A is to the left of C. b is to the immediate right of D and there are two people between C and D. E is to the extreme right of the row. Who is exactly at the middle of this group ?
Alt1	A
Alt2	B
Alt3	C
Alt4	E

15	A man is facing south. He turns 1350 in the anticlockwise direction and then 1800 in the clockwise direction. Which direction is he facing now?
Alt1	North East
Alt2	North West
Alt3	South East
Alt4	South West

16	Find the number which when added to itself 17 times becomes 126.
Alt1	13
Alt2	7
Alt3	9
Alt4	18

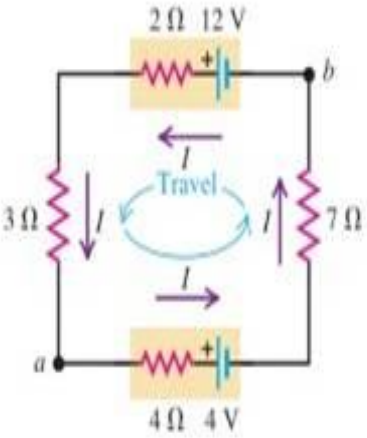
17	Ravi is exactly 9999 days old today. How old is he?
Alt1	27
Alt2	28
Alt3	26
Alt4	29

18	A Maths teacher usually has 21 students in his class. A,B & C are asleep. D&E are in the bathroom and the teacher has sent F&G to the principal's office. How many students are left in the classroom?
Alt1	18
Alt2	19
Alt3	15
Alt4	17

19	JIPMER is coded as 589142; AIPMT is coded as 78910; Then JEE is coded as
Alt1	910
Alt2	544
Alt3	789
Alt4	914

20	Mr. Arvind drove 90 km at 30 kmph and then an additional 90 km at 45 kmph. What is his average speed over his 180 km ?
Alt1	37.5 kmph
Alt2	35 kmph
Alt3	36 kmph
Alt4	38 kmph

21	Two equal masses are attached to the two ends of a spring on spring constant k. The masses are pulled out symmetrically to stretch the spring by a length x over its natural length. The work done by spring on each mass is:-
Alt1	kx2/2
Alt2	-kx2/4
Alt3	-kx2/2
Alt4	kx2/4

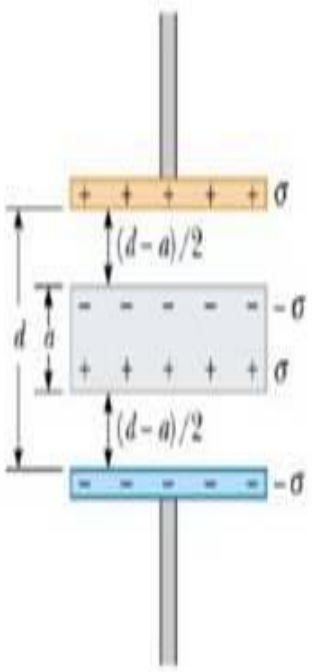
22	 Two batteries with internal resistance are connected with two resistors as shown in the Figure. Let V_{ab} denote the potential difference between the points a and b. The direction of current in the circuit is assumed to be anti-clockwise as shown. This assumption may or may not be correct. Choose the correct answer.
Alt1	The potential at point b is higher than the potential at a
Alt2	The current in the circuit is 0.5A and it flows in the clockwise direction
Alt3	$V_{ab} = 7V$
Alt4	Total power dissipated in all four resistors is equal to 4W

23	An isolated conducting sphere of radius R has a total charge Q on it. What is the electric potential energy of the sphere?
Alt1	$\frac{Q^2}{8\pi\epsilon_0 R}$
Alt2	$\frac{Q^3}{4\pi\epsilon_0 R^2}$
Alt3	$\frac{Q^2}{4\pi\epsilon_0 R}$

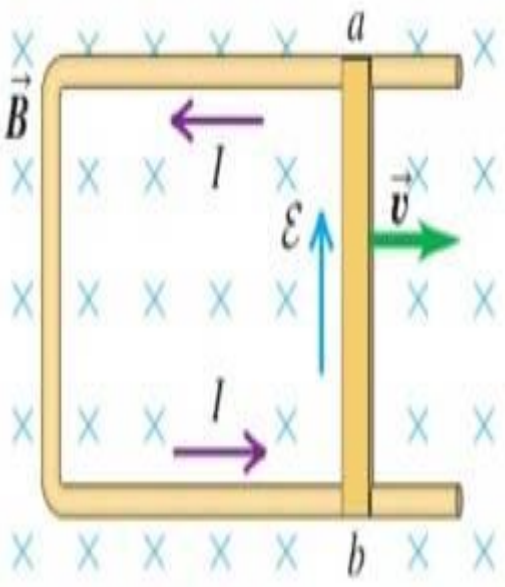
Alt4	$\frac{Q}{8\pi\epsilon_0 R^2}$

24	A light ray enters from medium A to medium B whose refractive indices are n_A and n_B respectively. Choose the correct answer related to total internal reflection.
Alt1	Total internal reflection occurs when $n_A > n_B$ and the critical angle for total internal reflection is given by $\theta_C = \tan^{-1}(n_B/n_A)$
Alt2	Total internal reflection occurs when $n_A < n_B$ and the critical angle for total internal reflection is given by $\theta_C = \sin^{-1}(n_A/n_B)$
Alt3	The angle of incidence for which the refracted ray emerges tangent to the surface is called the critical angle θ_C.
Alt4	None

25	The moment of inertia of a uniform hollow sphere of mass M and radius R about any of its diameter is equal to:-
Alt1	MR^2
Alt2	$\frac{1}{2}MR^2$
Alt3	$\frac{2}{3}MR^2$
Alt4	$\frac{2}{5}MR^2$

26	 A conducting slab of thickness a is inserted inside a parallel plate capacitor with plate separation $d > a$ as shown in the Figure and where σ is the charge density. Let A be the area of each plate. Calculate the capacitance of the capacitor.
Alt1	$\frac{\epsilon_0 A}{d}$
Alt2	$\frac{2\epsilon_0 A}{d-a}$
Alt3	$\frac{\epsilon_0 A}{d-a}$
Alt4	$\frac{\epsilon_0 A}{2(d-a)}$

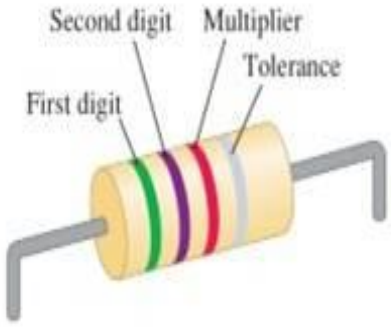
27	A positive charge $q_1 = 15C$ is located at $(2, 0)$ and another positive charge $q_2 = 6C$ is kept at $(0, 0)$ along the x-axis. Calculate the position $(x, 0)$ of a negative charge q_3 on the x-axis such that the resultant electrostatic force on it is zero.
Alt1	x = 0.5
Alt2	The position cannot be calculated because the magnitude of the charge q3 is not given
Alt3	$x = \frac{-4 + 2\sqrt{10}}{3}$
Alt4	x = 1

28	 A vertical electrically conducting rod is placed on a 'C' shaped conducting rail such that the vertical rod can slide horizontally on the rail without friction. In the Figure, the cross marks indicate that the whole setup is kept in a uniform magnetic field of 0.6T pointing perpendicular to the plane of the paper and directed into the paper. Let the rod be moving to the right with a velocity 2.5m/s and the length of the rod be 10cm. Calculate the current in the circuit, if the internal resistance of the setup is 0.03Ω
Alt1	0.3A
Alt2	5A
Alt3	0.5A
Alt4	0.15A

29	Sound waves travelling from one medium to the other medium will undergo total internal reflection if:-

Alt1	Velocity of sound in the 2nd medium is less than the velocity of sound in the 1st medium, if the angle of incidence is less than sin-1[c2/c1]
Alt2	Velocity of sound in the 2nd medium is less than the velocity of sound in the 1st medium, irrespective of the angle of incidence
Alt3	Velocity of sound in the 2nd medium is less than the velocity of sound in the 1st medium, if the angle of incidence is greater than sin-1[c2/c1]
Alt4	Velocity of sound in the 2nd medium is greater than the velocity of sound in the 1st medium, irrespective of the angle of incidence

30	The gravitational field due to a uniform solid sphere at an internal point is proportional to the distance of the point from the centre of the sphere. What is the field at the centre?
Alt1	$\frac{Gm}{a^3}$
Alt2	$\frac{Gm}{a^2}$
Alt3	Infinity
Alt4	Zero

31	 The colours code on the resistor is useful in finding its resistance. In the Figure shown, the first digit is green, the second digit is violet, and the multiplier is red. If the tolerance is silver colour, then the value of resistance is
Alt1	$57k\Omega \pm 10\%$
Alt2	$570\Omega \pm 10\%$
Alt3	$5.7k\Omega \pm 1\%$

Alt4	$5.7\text{k}\Omega \pm 10\%$

32	The electric potential $V(z)$ due to a certain charged object at a distance z from the object is $$V(z)=\frac{\sigma}{2\epsilon_0}\left[\sqrt{z^2+R^2}-z\right]$$ where σ and ϵ_0 are constants. Then, the magnitude of the electric field $\left\|\vec{E}(z)\right\|$ at the same point will be equal to
Alt1	$E(z)=\frac{\sigma}{2\epsilon_0}\left[\frac{\sqrt{z^2+R^2}-z}{z}\right]$
Alt2	$E(z)=\frac{\sigma}{2\epsilon_0}\left[1-\frac{z}{\sqrt{z^2+R^2}}\right]$
Alt3	$E(z)=\frac{\sigma}{2\epsilon_0}\left[\frac{z-\sqrt{z^2+R^2}}{z}\right]$
Alt4	$E(z)=\frac{-\sigma}{2\epsilon_0}\left[1-\frac{z}{\sqrt{z^2+R^2}}\right]$

33	An electron moving in a straight line path is entering into a region of space where a uniform electric field $\vec{E} = E_0\hat{x}$ and a uniform magnetic field $\vec{B} = B_0\hat{z}$ are present simultaneously. It is found that the speed of the electron is equal to the ratio of the magnitudes of electric and magnetic fields. Then, it can be concluded that the electron is travelling in
Alt1	A circular path
Alt2	A straight line path
Alt3	An elliptical path
Alt4	A helical path

34	An atom can be found at two energy states of energies 5.36 eV and 3.45 eV. Find the wavelength of light emitted when the atom makes transition from one state to another.
Alt1	6504 nm
Alt2	6504 Angstrom
Alt3	1910 nm
Alt4	8810 Angstrom

35	Millikan's oil drop experiment led to the conclusion that:-
Alt1	The charge of electron is $e = 1.6\times10^{-19}$C and its mass $m = 9.11\times10^{-31}$kg.
Alt2	The charge is not quantized and that $e = 1.6\times10^{-19}$C.
Alt3	The charge is quantized and that $e = 1.6\times10^{-19}$C.
Alt4	The charge of electron is $e = 1.6\times10^{-19}$C but no information about the quantization of charge.

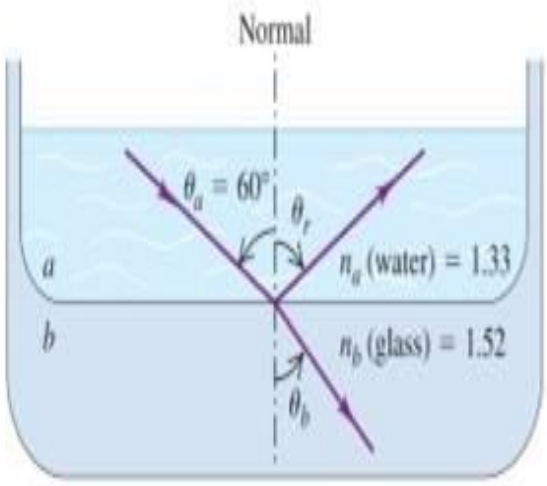
36	Calculate the de Broglie wavelength λ of an object of mass 0.01kg which is moving with a speed of $10\,\mathrm{m\cdot s^{-1}}$.

Alt1	$6.63\times10^{-33}\,\text{Å}$
Alt2	$6.63\times10^{23}\,\text{Å}$
Alt3	$6.023\times10^{23}\,\text{m}$
Alt4	$6.63\times10^{-23}\,\text{Å}$

37	Which of the following dimensionally correct?
Alt1	Pressure = Energy per unit volume
Alt2	Pressure = Force per unit volume
Alt3	Pressure = Energy per unit area
Alt4	Pressure = Momentum per unit volume

38	Let ε0 be the electric permittivity of vacuum. Three equal charges of magnitude are fixed on the vertices of an equilateral triangle of side . What is the total electric potential energy of the system in SI units?
Alt1	$\frac{6}{4\pi\epsilon_0}$
Alt2	$\frac{3}{4\pi\epsilon_0}$
Alt3	$\frac{9}{4\pi\epsilon_0}$
Alt4	$\frac{1}{4\pi\epsilon_0}$

39	Among, (i) light waves, (ii) infrared waves, (iii) X-rays and (iv) gamma rays, which of these are electromagnetic waves about 1000 times shorter in wavelength than light waves?
Alt1	Infrared waves
Alt2	Light waves
Alt3	X-rays
Alt4	Gamma rays

40	 A ray of light travels through water medium denoted by a and then passes through glass medium denoted by b as shown in the Figure. The indices of refraction of water and glass are $n_a = 1.33$ and $n_b = 1.52$. The incident ray makes an angle of 60° with the normal. Calculate the angle of reflection θ_r and the angle of refraction θ_b.
Alt1	$\theta_r = 60^\circ,\ \theta_b = \sin^{-1}\left(0.443\sqrt{3}\right)$
Alt2	$\theta_b = \sin^{-1}\left(0.443\sqrt{3}\right),\ \theta_r = \cos^{-1}\left(0.443\sqrt{3}\right)$
Alt3	$\theta_b = 60^\circ,\ \theta_r = \sin^{-1}\left(0.443\sqrt{3}\right)$
Alt4	$\theta_r = 60^\circ,\ \theta_b = \cos^{-1}\left(0.443\sqrt{3}\right)$

41	The molar mass of oxygen is 0.0320 kg/mol. What is the most probable speed of oxygen molecules at a temperature of 300K?
Alt1	445 m/s
Alt2	300 m/s
Alt3	395 m/s

Alt4	483 m/s

42	The calculations in the Millikan's oil drop experiment involve:-
Alt1	Lorentz force, gravitational force and the viscous force
Alt2	Lorentz force and gravitational force
Alt3	Magnetic force, gravitational force and the viscous force
Alt4	Gravitational force and the viscous force

43	If the standing wave is set up in pipe which has two open ends, what will be the resonant frequency at both ends?
Alt1	f = nv/2L, n=1,3,5,...
Alt2	f = nv/4L, n=1,2,3,...
Alt3	f = nv/4L, n=1,3,5,...
Alt4	f = nv/2L, n=1,2,3,...

44	One of the main applications of the Zener diode is:-
Alt1	To create a stabilised power supply
Alt2	To increase the signal reception in television antennas
Alt3	To measure the I-V characteristics of diode
Alt4	To create Avalanche breakdown

45	Mark the wrong statement about the friction between the two bodies.
Alt1	Kinetic friction always smaller than limiting friction
Alt2	Co-efficient of kinetic friction is always smaller than co-efficient of static friction
Alt3	Static friction is always greater than the kinetic friction
Alt4	Limiting friction is never less than the static friction

46	A 60 kg man dives from the stern of a 90 kg boat with a horizontal component of velocity of 3.0 m/s north. Initially the boat was at rest. Find the magnitude and the direction of the velocity acquired by the boat.
Alt1	-2.0 m/s south
Alt2	2.0 m/s north
Alt3	2.0 m/s south
Alt4	-2.0 m/s north

47	Consider a system of two identical particles in which one of the particles has an acceleration $\vec{a}$ and the other is at rest. What is the acceleration of centre of mass?
Alt1	$\vec{0}$

Alt2	
Alt3	$0.5\vec{a}$
Alt4	1

48	The equation x4-7x+2=0 has
Alt1	Exactly two real and distinct roots
Alt2	All the four roots lie between 0 and 2
Alt3	Has four real roots
Alt4	No real root

49	$f(x) = \frac{\sin 3x}{x}$ for $x \neq 0$ and $f(0) = k$. If f(x) is continuous at $x = 0$, then k is
Alt1	4
Alt2	2
Alt3	3
Alt4	1

50	If A, B, C are three mutually exclusive and exhaustive events of a trial such that P(A) = 2 P(B) = 3 P(C). Then P(A) is:-
Alt1	2/5
Alt2	1/3
Alt3	3/8
Alt4	6/11

51	$\lim_{x \to \pi/2} \frac{\cos x}{\pi/2 - x} =$
Alt1	0
Alt2	∞
Alt3	-1
Alt4	1

52	$y = cx - c^2$ is the general solution of the differential equation

Alt1	$y'' = 0$
Alt2	$(y')^2 - xy' + y = 0$
Alt3	$(y')^2 + xy' + y = 0$
Alt4	$y' = c$

53	A Candidate was asked to find 7/8th of a positive number and got an answer which was 770 less than the correct answer. What is the original number?
Alt1	1260
Alt2	6260
Alt3	1584
Alt4	6160

54	Adjacent sides of a parallelogram are 36cm and 27 cm in length. The perpendicular distance between the shorter sides is 12 cm. Then the distance between the longer sides is:-
Alt1	12
Alt2	16
Alt3	18
Alt4	9

55	If the normal makes an angle θ with positive x-axis then the slope of the curve at the point where the normal is drawn is :-
Alt1	tan θ
Alt2	cot θ
Alt3	-cot θ
Alt4	-tan θ

56	The equation of the horizontal tangent to the graph of the function f(x)=ex+e(-x) is:-
Alt1	x = 2
Alt2	y = -1
Alt3	y = 2
Alt4	y = -2

57	A tile is in the shape of a parallelogram of base 5cm and the corresponding height is 3cm. The number of tiles required to cover an area of 45 m2 is:-
Alt1	300
Alt2	3
Alt3	3000
Alt4	30000

58	The area bound by the parabola y2=x and its latus rectum is:-
Alt1	4/3
Alt2	2/3
Alt3	8/3
Alt4	1/6

59	If the length of the diagonal of a square is increasing at the rate of 0.1cm/sec. What is the rate of increase of its area when the side is $\frac{15}{\sqrt{2}}$ cm
Alt1	3cm2/sec
Alt2	1.5cm2/sec
Alt3	0.15cm2/sec
Alt4	3.5cm2/sec

60	Let x and y be two real numbers such that x>0 and xy=1. The minimum value of x+y is :-
Alt1	2
Alt2	1/4
Alt3	1/2
Alt4	1

61	The angle between the lines represented by x2 - y2+ x-y=0 is:-
Alt1	π/2
Alt2	π/4
Alt3	π/3
Alt4	π/6

62	On straight road XY, 100 meters long, five heavy stones are placed two meters apart beginning at the end X. A worker, starting at X, has to transport all the stones to Y, by carrying only one stone at a time. The minimum distance he has to travel (in meters) is:-
Alt1	472
Alt2	860
Alt3	744
Alt4	422

63	The integrating factor of the differential equation $\frac{dy}{dx} - y\tan x = \cos x$ is
Alt1	$e^{\tan x}$

Alt2	$\cot x$
Alt3	$\cos x$
Alt4	$\sec x$

64	In the following collection (i) The rich peoples in city who use motorbikes for going to office (ii) The people who travelled at least once in airplane (iii) The people having annual income less than 40000 rupees
Alt1	All (i) (ii) and (iii) are well defined sets
Alt2	Only (i) and (ii) are well defined sets
Alt3	Only (ii) and (iii) are well defined sets
Alt4	None of them are well defined sets

65	The area of the region bounded by the curve $\|x\| + \|y\| = 1$ is
Alt1	3
Alt2	1
Alt3	4
Alt4	2

66	The gradient of the tangent to the curve $y = 8 + 4x - 2x^2$ at the point where the curve cuts the y- axix is
Alt1	8
Alt2	0
Alt3	4
Alt4	-4

67	Let A and B are any two subsets of a set X. (i) The complement of A is contained in the complement orAUB (ii) The complement of A is contained in the complement or AnB
Alt1	Neither (i) nor (ii) is true

Alt2	(i) is true but (ii) is not true
Alt3	(ii) is true but (i) is not true
Alt4	Both (i) and (ii) are true

68	In a certain town, 1/5th of the housing units are equipped with cable television, 1/10th of the housing units are equipped with video cassette recorders and 1/3 of those having cable television have video cassette recorders. What fraction of the housing units have neither cable television nor video cassette recorder?
Alt1	11/15
Alt2	7/10
Alt3	1/6
Alt4	23/30

69	How many 5 digit numbers can be formed using 1,2,3,4 and 5 such that unit's digit is always greater than the hundred's digit?
Alt1	72
Alt2	60
Alt3	36
Alt4	48

70	The sum of all the roots of the equation $\|x-2\|^2+\|x-2\|-2=0$ is :-
Alt1	4
Alt2	5
Alt3	7
Alt4	1

71	If α,β are the roots of the equation $ax^2+bx+c=0$, then the roots of the equation $a^3x^2+abcx+c^3=0$ are,
Alt1	$\alpha^2\beta\ ,\alpha\beta^2$
Alt2	$\alpha\beta\ ,\alpha^2\beta^2$
Alt3	α^3,β^3
Alt4	$\alpha\beta\ ,\ \alpha+\beta$

72	Four years back, a father was 28 years older than his son. At present the father is 5 times as old as the son. How old will the son be three years from now?
Alt1	7

Alt2	9
Alt3	10
Alt4	4

73	$\int_0^{\sqrt{2}} [x^2]\ dx$ is
Alt1	$\sqrt{2}-2$
Alt2	$2-\sqrt{2}$
Alt3	$\sqrt{2}-1$
Alt4	$2+\sqrt{2}$

74	If the matrix $\begin{pmatrix} -1 & 3 & 2 \\ 1 & n & -3 \\ 1 & 4 & 5 \end{pmatrix}$ has an inverse then the value of n
Alt1	n= - 4
Alt2	n ≠ 4
Alt3	n is any real number
Alt4	n ≠ - 4

75	In a first order reaction, which of the following is a function of time?
Alt1	Half-life
Alt2	Rate constant
Alt3	Rate
Alt4	None of the above

76	Vitamin B12 is a complex of _____ ion
Alt1	Co2+
Alt2	Fe3+
Alt3	Co3+
Alt4	Fe2+

77	The product of the following reaction is
	
Alt1	CH3-CH2-CH2OH
Alt2	CH3-CH(OH)-CH3
Alt3	CH3-CH2-CH3
Alt4	CH3-CH(OH)-CH2OH

78	Temperature affect the solution concentration expressed in :-
Alt1	Percent composition
Alt2	Molarity
Alt3	Mole fraction
Alt4	Molality

79	Faraday's laws of electrolysis is related to:-
Alt1	Conductivity of the solution
Alt2	Speed of the ion
Alt3	Concentration of the electrolyte
Alt4	Equivalent mass of the electrolyte

80	In the respiration, CO2 is converted in to :-
Alt1	HCO3-
Alt2	CaCO3
Alt3	CO
Alt4	CO32-

81	If the rate of the reaction between A and B is given by k [A]2[B], doubling of the concentration of both the reactants will increase the rate of the reaction by a factor of :-
Alt1	5
Alt2	8
Alt3	3
Alt4	2

82	The number of σ and π bonds in acetic acid respectively are:-
Alt1	7 and 1
Alt2	2 and 2
Alt3	8 and 0
Alt4	1 and 7

83	The metals which are responsible for nerve impulse transmissions are:-
Alt1	Mg, Ca
Alt2	Zn, Na
Alt3	Fe, K
Alt4	Co, Ni

84	If the solubility of Ca3PO4 is x moles/litre, its solubility product is:-
Alt1	7 x4
Alt2	6 x4
Alt3	108 x5
Alt4	64 x5

85	The correct order of the compounds with respect to their pKa values is:-
Alt1	4-nitrobenzoic acid < benzoic acid < 4-methoxybenzoic acid
Alt2	benzoic acid < 4-methoxybenzoic acid < 4-nitrobenzoic acid
Alt3	4-methoxybenzoic acid < 4-nitrobenzoic acid < benzoic acid
Alt4	4-nitrobenzoic acid < 4-methoxybenzoic acid < benzoic acid

86	Which one is correct in terms of acid strength?
Alt1	HI < HBr < HCl < HF
Alt2	HF > HCl > HBr > HI
Alt3	HF > HI > HBr > HCl
Alt4	HF < HCl < HBr < HI

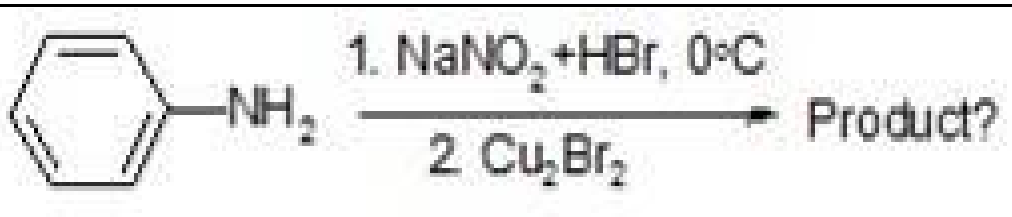
87	The higher partial positive charge on CH2 hydrogen than that on CH3 hydrogens in chloroethane is because of:-
Alt1	hyperconjugation with Cl
Alt2	inductive effect of Cl
Alt3	large atomic size of Cl
Alt4	resonance effect of Cl

88	In an electrolytic cell :-
Alt1	Electrons flow from cathode to anode in the electrolytic solution
Alt2	Ions migrate and get oxidized at cathode
Alt3	Electrons flow from anode to cathode in the electrolytic solution
Alt4	Ions migrate and get oxidized at anode

89	Paramagnetism is caused by:-
Alt1	Unpaired electrons
Alt2	Paired electrons
Alt3	Lone pair of electrons
Alt4	Bonded pair of electrons

90	The oxidation number and valency of P in phosphorus acid is:-
Alt1	+3, +5
Alt2	+5, +5
Alt3	+3, +3
Alt4	+5, +3

91	The product of the following reaction is

	
Alt1	4-bromoaniline
Alt2	Bromobenzene
Alt3	2-Bromoaniline
Alt4	2,4,6-tribromoaniline

92	If one mole of solute taken and added to one litre of the solvent, its concentration is :-
Alt1	Less than one molar solution
Alt2	Exactly one molar solution
Alt3	Exactly one molal solution
Alt4	More than one molar solution

93	Based on the first law of thermodynamics, q= - w implies:-
Alt1	Cyclic process
Alt2	Isothermal process
Alt3	Adiabatic process
Alt4	Isochoric process

94	What is the hybridization of the oxygen atom in water?
Alt1	sp3
Alt2	sd
Alt3	sp2
Alt4	sp

95	In an acid-base titration, the end point is noticed at pH=8.6; The best indicator for this titration is:-
Alt1	methyl orange
Alt2	methyl red
Alt3	bromothymol blue
Alt4	Phenolphthalein

96	The order of basic strength of ethyl substituted amines in aqueous solution is:-
Alt1	NH3> C2H5NH2> (C2H5)2NH > (C2H5)3N
Alt2	(C2H5)2NH > (C2H5)3N > C2H5NH2> NH3
Alt3	(C2H5)3N > (C2H5)2NH> C2H5NH2> NH3
Alt4	(C2H5)2NH > NH3> C2H5NH2>(C2H5)3N

97	Which one of these single bonds of the four compounds, CH3-OH, CH3-Br, CH3-NH2 and CH3-CH3, is most polar:-
Alt1	CH3-OH
Alt2	CH3-Br
Alt3	CH3-CH3
Alt4	CH3-NH2

98	Which of the following is not a state function?

Alt1	Work
Alt2	Internal energy
Alt3	Temperature
Alt4	Molar enthalpy

99	The atomic unit of energy is :-
Alt1	Hartree
Alt2	KJ/mol
Alt3	Kcal/mol
Alt4	eV

100	The metal present in Wilkinson's catalyst is :-
Alt1	Rhodium
Alt2	Platinum
Alt3	Titanium
Alt4	Iridium