RUHS

RUHS Entrance Examination 2022 Question Paper

Paramedical 2022

Q. No. 1 0052001	**The dimensional formula of Magnetic permeability is, [Given, mass=M, length=L, time=T, Current=A]**
Option A	$[M^1L^2T^{-2}A^{-2}]$
Option B	$[M^1L^1T^{-2}A^{-2}]$
Option C	$[M^1L^{-1}T^1A^{-2}]$
Option D	$[M^1L^1T^{-2}A^2]$
Correct Option	**B**

Q. No. 2 0052002	The angle between the vectors $(\vec{P} \times \vec{Q})$ and $(\vec{Q} + \vec{P})$ is
Option A	$\pi/4$
Option B	$\pi/2$
Option C	π
Option D	$\frac{3\pi}{4}$
Correct Option	**B**

Q. No. 3 0052003	The equation of a projectile is given by, $y = 6x - \frac{1}{2}x^2$, find out the range of the projectile motion.
Option A	6 m
Option B	12 m
Option C	18 m
Option D	24 m
Correct Option	**B**

Q. No. 4 0052004	**An object of mass 'm' is initially at rest. This object undergoes a motion with constant acceleration. The power delivered to it at time 't' is proportional to**
Option A	t
Option B	$t^{0.5}$
Option C	t^2
Option D	$t^{3/2}$
Correct Option	**A**

Q. No. 5 0052005	

	The potential energy of a particle in a force field is given by, $U = \frac{P}{x^2} - \frac{Q}{x}$, where 'P' and 'Q' are positive constants and 'x' is the distance of the particle from the centre of the field. Calculate the distance of the particle from the centre of the field for stable equilibrium.
Option A	Q/P
Option B	2P/Q
Option C	2Q/P
Option D	P/Q
Correct Option	**B**

Q. No. 6 0052006	**An object of mass 'M$_A$' collides with another stationary object of mass 'M$_B$'. If the object M$_A$ stops just after the collision. Calculate the coefficient (e) of restitution for the collision. (e= change in velocity of M$_B$: change in velocity of M$_A$)**
Option A	$\frac{M_A}{M_A + M_B}$
Option B	$\frac{M_A}{M_B}$
Option C	$\frac{M_A}{M_B - M_A}$
Option D	$\frac{M_B}{M_A}$
Correct Option	**B**

Q. No. 7 0052007	**A solid sphere of radius 'r' is rolling on a horizontal surface. Calculate the ratio of rotational energy and total energy.**
Option A	1:7
Option B	1:2
Option C	2:7
Option D	5:7
Correct Option	**C**

Q. No. 8 0052008	**What is the moment of inertia of a hollow sphere of radius 'R' and mass 'M' about diameter axis?**
Option A	$\frac{5}{3}MR^2$
Option B	$\frac{7}{3}MR^2$
Option C	$\frac{2}{3}MR^2$
Option D	$\frac{1}{3}MR^2$
Correct Option	**C**

Q. No. 9 0052009	**Two bodies have their moment of inertia 'I' and '2I', respectively about their axis of rotation. If their kinetic energies of rotation are equal, their angular velocities will be in the ratio**
Option A	2:1
Option B	1:2
Option C	$\sqrt{2}:1$
Option D	1:4
Correct Option	**C**

Q. No. 10 0052010	**If the gravitational force varies inversely as m-th power of distance. Then the time period of a planet in a circular orbit of radius 'R' around the sun will be proportional to**
Option A	$R^{\frac{1}{2}(m-2)}$
Option B	R^m
Option C	$R^{\frac{1}{2}(m-1)}$
Option D	$R^{\frac{1}{2}(m+1)}$
Correct Option	**D**

Q. No. 11 0052011	**Calculate the energy needed to launch a 'm_s' kg satellite from the earth's surface in a circular orbit at an altitude of 4R. [Given, the radius of the earth=R]**
Option A	$\frac{1}{10}m_s gR$
Option B	$\frac{9}{10}m_s gR$
Option C	$m_s gR$
Option D	$\frac{1}{6}m_s gR$
Correct Option	**B**

Q. No. 12 0052012	**If the distance between the earth and the sun is 'p'. then the angular momentum of the earth around the sun is proportional to**
Option A	$p^{1/2}$
Option B	$p^{3/2}$
Option C	$p^{5/2}$
Option D	p
Correct Option	**A**

Q. No. 13 0052013	**What is the phase difference between two simple harmonic motions represented by,** $x_1 = A\sin(\omega t + \frac{\pi}{7})$ and $x_2 = A\cos(\omega t)$?
Option A	$5\pi/14$
Option B	$3\pi/14$

Option C	$\pi/14$
Option D	$3\pi/2$
Correct Option	**A**

Q. No. 14 0052014	The equations of displacement of two waves are, $y_1 = 20\sin(3\pi t + \pi/3)$, $y_2 = 5[\sin(3\pi t) + \sqrt{3}\cos(3\pi t)$. Calculate the ratio of their amplitude.
Option A	2:1
Option B	1:2
Option C	1:1
Option D	1:3
Correct Option	**A**

Q. No. 15 0052015	**Two wires of same length and same material but of radii R and 2R are stretched by forces F1 and F2 to produce equal elongation. Calculate the ratio of F1 and F2.**
Option A	1:4
Option B	1:3
Option C	2:3
Option D	4:3
Correct Option	**A**

Q. No. 16 0052016	**A uniform rod of mass 'm', area of cross-section 'S', length 'L' and Young's modulus 'Y' is hanging from a ceiling. Calculate the elongation of the rod under its own weight**
Option A	$\frac{mgL}{2SY}$
Option B	$\frac{mgL}{SY}$
Option C	$\frac{2mgL}{3SY}$
Option D	$\frac{mgL}{4SY}$
Correct Option	**A**

Q. No. 17 0052017	**If the ratio of the radius of two bubbles is 2:1, then calculate the ratio of the excess pressure inside them.**
Option A	1:2
Option B	1:3
Option C	1:4
Option D	2:3
Correct Option	**A**

Q. No. 18 0052018	**At what temperature, the density of water is maximum?**
Option A	$10^{\circ}C$
Option B	$4^{\circ}C$
Option C	

[redacted]	$> 4°C$
Option D	$< 4°C$
Correct Option	**B**

Q. No. 19 0052019	What will be the rms velocity of oxygen molecule at 27°C ?
Option A	96.6 ms^{-1}
Option B	48.3 ms^{-1}
Option C	483 ms^{-1}
Option D	496 ms^{-1}
Correct Option	**C**

Q. No. 20 0052020	One mole of gas expands with temperature T such that its volume $V = gT^2$.Calculate the work done by the gas if the temperature is increased by 40°C. [Given, g=constant]
Option A	80gR
Option B	80R
Option C	R ln 80
Option D	gR ln 80
Correct Option	**B**

Q. No. 21 0052021	**The p-T relation for an adiabatic process is**
Option A	$p^{1+\gamma}.T^{\gamma}$
Option B	$p^{1-\gamma}.T^{\gamma}$
Option C	$p^{\gamma}T^{1-\gamma}$
Option D	$pT^{\gamma-1}$
Correct Option	**B**

Q. No. 22 0052022	**Water is used to cool the car engine in radiators, because it has**
Option A	High density
Option B	Low surface tension
Option C	Low density
Option D	High specific heat
Correct Option	**D**

Q. No. 23 0052023	In a travelling wave, $y = 0.2 \sin \pi(x - 340t + \frac{5}{7})$ (S.I Unit). Calculate the phase difference between x1=2 m and x2= 2.5 m.
Option A	0.5π
Option B	π
Option C	$\frac{3}{2}\pi$

Option D	0
Correct Option	**A**

Q. No. 24 0052024	**A travelling wave reflected at an open boundary undergoes a phase change of**
Option A	π
Option B	$\pi/2$
Option C	2π
Option D	0
Correct Option	**D**

Q. No. 25 0052025	**Which of the following properties show that the light is a transverse wave?**
Option A	Reflection
Option B	Interference
Option C	Diffraction
Option D	Polarization
Correct Option	**D**

Q. No. 26 0052026	The displacement of a particle is given by, $y = a\sin 2\pi(bt - cx)$ when a wave travels in a medium. Under which condition, the velocity of the particle will be twice the velocity of the wave velocity? [where 'a', 'b', 'c' are constants]
Option A	b=ac
Option B	b=1/ac
Option C	$c = \pi a$
Option D	$c = 1/\pi a$
Correct Option	**D**

Q. No. 27 0052027	The electric field at a point of distance 'r' from a uniformly charged wire of infinite length having linear charge density 'λ' is
Option A	$\frac{\lambda}{2\pi r\epsilon_0}$
Option B	$\frac{\lambda}{4\pi r\epsilon_0}$
Option C	$\frac{2\lambda}{8\pi r\epsilon_0}$
Option D	$\frac{\lambda}{r\pi\epsilon_0}$
Correct Option	**A**

Q. No. 28 0052028	A spherical drop of capacitance $1\mu F$ is broken into 8 drops of equal radius. Calculate the capacitance of each drop.
Option A	$\frac{1}{2}\ \mu F$

Option B	$2\ \mu F$
Option C	$\frac{1}{4}\ \mu F$
Option D	$4\ \mu F$
Correct Option	**A**

Q. No. 29 0052029	A capacitor of $2\ \mu F$ is charged to 200 V and then the plates of the capacitor is connected by a wire. How much heat will be produced?
Option A	$4 \times 10^{10}\ J$
Option B	$4 \times 10^{4}\ J$
Option C	$4 \times 10^{-2}\ J$
Option D	$2 \times 10^{-2}\ J$
Correct Option	**C**

Q. No. 30 0052030	A wire having resistance 12 Ω is bent in the form of an equilateral triangle. Calculate the effective resistance between any two corners of the triangle.
Option A	4/3
Option B	7/3
Option C	4
Option D	8/3
Correct Option	**D**

Q. No. 31 0052031	**The electric field 'E' and current density 'J' have relation**
Option A	$E \propto J$
Option B	$E \propto J^2$
Option C	$E \propto 1/J$
Option D	$E \propto 1/J^2$
Correct Option	**A**

Q. No. 32 0052032	**Zener diode is used for**
Option A	amplification
Option B	rectification
Option C	voltage regulation
Option D	oscillator
Correct Option	**C**

Q. No. 33 0052033	**Two wires of same length are shaped into a square and a circle. If they carry same current, then the ratio of the magnetic moment is**
Option A	$2:\pi$
Option B	$\pi:2$
Option C	$\pi:4$
Option D	$4:\pi$
Correct Option	**C**

Q. No. 34 0052034	A particle with charge 'q' is moving along a circle of radius 'R' with uniform speed 'v'. The associated magnetic moment 'A' is given by
Option A	$\frac{1}{2}v^2R$
Option B	$\frac{1}{4}qvR$
Option C	$\frac{1}{2}qvR$
Option D	$\frac{1}{2}q^2vR$
Correct Option	**C**

Q. No. 35 0052035	The magnetic induction produced at the centre of a circular loop carrying current is 'B'. The magnetic moment of the loop of radius 'R' is
Option A	$\frac{BR^2}{2\pi\mu_0}$
Option B	$\frac{2\pi BR^3}{\mu_0}$
Option C	$\frac{BR^2}{2\pi\mu_0}$
Option D	$\frac{2\pi BR^2}{\mu_0}$
Correct Option	**B**

Q. No. 36 0052036	The rms current in an AC circuit is 2 A. If the wattless current be $\sqrt{3}$ A, what is the power factor of the circuit?
Option A	$\frac{1}{3}$
Option B	$\frac{1}{2}$
Option C	$\frac{\sqrt{3}}{2}$
Option D	

	$\frac{1}{4}$
Correct Option	**B**

Q. No. 37 0052037	**The induced emf in a coil of 5 H inductance in which current varies from 9 A to 4 A in 0.2 sec is**
Option A	75 V
Option B	100 V
Option C	125 V
Option D	150 V
Correct Option	**C**

Q. No. 38 0052038	Two coils have the mutual inductance of 0.02 H. The current changes in the first coil as $I = I_0 \sin(\omega t)$. Where I_0=1 A and ω =100 π rad/s. Calculate the maximum emf induced in the secondary coil.
Option A	$2\pi\ V$
Option B	$5.0\ V$
Option C	$5\pi\ V$
Option D	$10\pi\ V$
Correct Option	**A**

Q. No. 39 0052039	**In a transformer, the number of turns in the primary coil are 140 and that in the secondary are 280. If the current in the primary is 2 A, then what will be the current in the secondary coil?**
Option A	1 *A*
Option B	2 *A*
Option C	4 *A*
Option D	0.1 *A*
Correct Option	**A**

Q. No. 40 0052040	An alternating voltage $V = 100\sqrt{2}\sin(100t)$ is applied to a capacitor of 1μF. What will be the current reading in the ammeter?
Option A	10
Option B	20
Option C	45
Option D	60
Correct Option	**A**

Q. No. 41 0052041	**which component of the electromagnetic spectrum has the longest wavelength?**
Option A	*Radio Wave*
Option B	*Visible spectrum*
Option C	*Gamma rays*
Option D	*x - rays*
Correct Option	**A**

Q. No. 42 0052042	**The range of wavelength of visible light is**
Option A	$10\,\text{Å} - 100\text{Å}$
Option B	$400\,\text{Å} - 1000\text{Å}$
Option C	$4000\,\text{Å} - 8000\text{Å}$
Option D	$10000\,\text{Å} - 15000\text{Å}$
Correct Option	**C**

Q. No. 43 0052043	**A ray of light passes from a medium 'A' having refractive index 1.8 to a medium 'B' having refractive index 1.6. Calculate the value of the critical angle.**
Option A	$\sin^{-1}(3/4)$
Option B	$\sin^{-1}(8/9)$
Option C	$\sin^{-1}\sqrt{\frac{3}{4}}$
Option D	$\sin^{-1}\sqrt{\frac{5}{16}}$
Correct Option	**B**

Q. No. 44 0052044	**Astigmatism is corrected by using**
Option A	Cylindrical lens
Option B	Plano-convex lens
Option C	Convex lens
Option D	Concave lens
Correct Option	**A**

Q. No. 45 0052045	**A concave lens of focal length 'f' forms an image of 1/3 times the size of the object. What is the distance of the object from the lens?**
Option A	f cm
Option B	2f cm
Option C	f/2 cm
Option D	3f cm
Correct Option	**B**

Q. No. 46 0052046	

	The interference pattern is obtained with two coherent light sources of intensity ratio 'r'. In the interference pattern, the ratio $\frac{I_{max}-I_{min}}{I_{max}+I_{min}}$ will be
Option A	$\frac{\sqrt{r}}{r+1}$
Option B	$\frac{2\sqrt{r}}{r+1}$
Option C	$\frac{\sqrt{r}}{(r+1)^2}$
Option D	$\frac{2\sqrt{r}}{(r+1)^2}$
Correct Option	**B**

Q. No. 47 0052047	**In Young's double slit experiment, the phase difference between the two waves reaching at the location of the third dark fringe is**
Option A	π
Option B	$\pi/2$
Option C	$3\pi/2$
Option D	5π
Correct Option	**C**

Q. No. 48 0052048	**The de-Broglie wavelength of neutrons in thermal equilibrium is**
Option A	$\frac{30.8}{\sqrt{T}}$ Å
Option B	$\frac{3.08}{\sqrt{T}}$ Å
Option C	$\frac{0.308}{\sqrt{T}}$ Å
Option D	$\frac{0.00308}{\sqrt{T}}$ Å
Correct Option	**A**

Q. No. 49 0052049	**The minimum number of NAND gates used for making OR gate is**
Option A	2
Option B	3
Option C	4
Option D	5
Correct Option	**B**

Q. No. 50 0052050	

	If the half-life of a material is 10 years, then in what time, it becomes ¼th part of the initial amount?
Option A	30 yr
Option B	25 yr
Option C	20 yr
Option D	15 yr
Correct Option	**C**

Q. No. 51 0082051	**Calculate the amount of water (g) produced by the combustion of 16 g of methane**
Option A	16 g
Option B	32 g
Option C	36 g
Option D	8 g
Correct Option	**C**

Q. No. 52 0082052	**Inert pair effect is shown by**
Option A	s- block
Option B	p- block
Option C	d- block
Option D	f- block
Correct Option	**B**

Q. No. 53 0082053	**Magnetic quantum number gives information about**
Option A	Orbital angular momentum
Option B	Spatial orientation of orbital
Option C	Size of orbital
Option D	Energy of orbital
Correct Option	**B**

Q. No. 54 0082054	**Which of the following method is not a method of concentration of metals**
Option A	Smelting
Option B	Froath floatation process
Option C	Gravity separation
Option D	Electromagnetic separation
Correct Option	**A**

Q. No. 55 0082055	**Which of the following has no units**
Option A	Electron affinity
Option B	Ionization energy
Option C	Electronegativity
Option D	Enthalpy
Correct Option	**C**

Q. No. 56 0082056	**The S.I. units of gas constant is**
Option A	$J\ K^{-1}\ mol^{-1}$
Option B	$J^{-1}\ K^{-1}\ mol^{-1}$
Option C	$J^{-1}\ K\ mol^{-1}$
Option D	None of the above
Correct Option	**A**

Q. No. 57 0082057	**In van der waals equation of state of gas law, the constant b is a measure of**
Option A	Intermolecular attraction
Option B	Intermolecular repulsion
Option C	Intermolecular collisions
Option D	Volume occupied by the molecules
Correct Option	**D**

Q. No. 58 0082058	**Which of the following is a state function**
Option A	Heat
Option B	Work
Option C	Internal energy
Option D	None of the above
Correct Option	**C**

Q. No. 59 0082059	**The structure of PF_5 molecule is**
Option A	Square planar
Option B	Pyramidal
Option C	Pentagonal bipyramidal
Option D	Trigonal bipyramidal
Correct Option	**D**

Q. No. 60 0082060	**Atomic orbitals of carbon in carbon dioxide are**
Option A	sp^2 hybridized
Option B	sp^3 hybridized
Option C	sp hybridized
Option D	sp^3d hybridized
Correct Option	**C**

Q. No. 61 0082061	**The pH of solution obtained by mixing 50 ml of 0.4 N HCl and 50 ml of 0.2 N NaOH is**
Option A	2.0
Option B	1.0
Option C	- log 2
Option D	- log 1
Correct Option	**B**

Q. No. 62 0082062	**In presence of a catalyst, the value of equilibrium constant**
Option A	Increases
Option B	Decreases
Option C	Remains same
Option D	First increases then decreases
Correct Option	**C**

Q. No. 63 0082063	**If reaction quotient Q =1 for the reaction then**
Option A	$\Delta G = 0$
Option B	$\Delta S = 0$
Option C	$\Delta G^{\circ} = 0$
Option D	$\Delta G = \Delta G^{\circ}$
Correct Option	**D**

Q. No. 64 0082064	**The conjugate acid of NH_2^-**
Option A	NH_4
Option B	N_2H_4
Option C	NH_3
Option D	NH_2OH
Correct Option	**C**

Q. No. 65 0082065	**A metal ion M^{3+} loses 3 electrons, its oxidation number will be**
Option A	0
Option B	+3
Option C	-3
Option D	+6
Correct Option	**D**

Q. No. 66 0082066	**The oxidation potentials of A and B are +2.37 V and 1.66 V respectively. In a chemical reaction**
Option A	A will replace B
Option B	A will be replaced by B
Option C	A will not replace B
Option D	A and B will not replace each other
Correct Option	**A**

Q. No. 67 0082067	**The high density of water as compared to ice is due to**
Option A	Hydrogen bonding interactions
Option B	Dipole- induced dipole interactions
Option C	Dipole-diplole interactions
Option D	Induced dipole- induced dipole interactions
Correct Option	**A**

Q. No. 68 0082068	**The stability of following alkali metal chlorides follows the order**
Option A	LiCl>KCl>NaCl>CsCl
Option B	KCl>CsCl>NaCl>LiCl
Option C	CsCl>KCl>NaCl>LiCl
Option D	NaCl>KCl>LiCl>CsCl
Correct Option	**B**

Q. No. 69 0082069	**The active constituent of bleaching powder is**
Option A	$Ca(ClO_2)_2$
Option B	$Ca(OCl)_2$
Option C	Ca(OCl)Cl
Option D	$Ca(ClO_2)Cl$
Correct Option	**C**

Q. No. 70 0082070	**On dissolving moderate amount of sodium metal in liquid NH_3 at low temperature, which one of the following does not occur**
Option A	Na^+ ions are formed in the solution
Option B	Blue coloured solution is formed
Option C	Liquid ammonia becomes good conductor of electricity
Option D	Liquid ammonia remains diamagnetic
Correct Option	**D**

Q. No. 71 0082071	**H_3BO_3 is**
Option A	Monobasic and weak Lewis acid
Option B	Monobasic and Lewis acid
Option C	Monobasic and weak Bronsted acid
Option D	Tribasic and weak Bronsted acid
Correct Option	**A**

Q. No. 72 0082072	**Which of the following molecular species has unpaired electrons**
Option A	F_2
Option B	N_2
Option C	O^{2-}
Option D	O_2^{2-}
Correct Option	**C**

Q. No. 73 0082073	**The most stable free radical among the following is**
Option A	$C_6H_5CH_2CH_2$
Option B	CH_3CHCH_3
Option C	CH_3CH_2
Option D	$C_6H_5CHCH_3$

Correct Option	**D**

Q. No. 74 0082074	**The correct order of –I effect of substituents is**
Option A	$-NR_2 > -OR > -F$
Option B	$-NR_2 < OR < F-$
Option C	$-NR_2 > -OR < F-$
Option D	$-NR_2 < OR > F-$
Correct Option	**B**

Q. No. 75 0082075	**2-Hexyne gives *trans*-2-hexene on treatment with**
Option A	Pd/BaSO4
Option B	Li/NH3
Option C	LiAlH4
Option D	Pt/H2
Correct Option	**B**

Q. No. 76 0082076	**Which of the following is not a green house gas**
Option A	CO_2
Option B	N_2
Option C	CH_4
Option D	Chlorofluorocarbons
Correct Option	**B**

Q. No. 77 0082077	**Salt bridge contains**
Option A	Calomel
Option B	Agar-agar paste
Option C	Corrosive sublimate
Option D	H_2O
Correct Option	**B**

Q. No. 78 0082078	**The standard electrode potentials of Fe^{2+}/Fe and Sn^{2+}/Sn electrodes are -0.44 and -0.14 V respectively. For the reaction** $Fe + Sn^{2+} \longrightarrow Fe^{2+} + Sn$ **, the standard emf is**
Option A	-0.30V
Option B	+0.30 V
Option C	+0.58 V
Option D	-0.58 V
Correct Option	**B**

Q. No. 79 0082079	**Which of the following can act as a protective colloid**
Option A	Silica gel

Option B	Oil-in-water emulsion
Option C	Gelatin
Option D	All of these
Correct Option	**C**

Q. No. 80 0082080	**The ability of the catalyst to direct the reaction to yield particular product is called**
Option A	Fugacity
Option B	Activity
Option C	Reactivity
Option D	Selectivity
Correct Option	**D**

Q. No. 81 0082081	**BCC type of structure is for**
Option A	CsCl
Option B	NaCl
Option C	Both a and b
Option D	None of these
Correct Option	**A**

Q. No. 82 0082082	**If radius ratio (r^+/r^-) is in the range of 0.732 to 0.414 , then the coordination number will be**
Option A	6 and is octahedral
Option B	8 and is cubic
Option C	4 and is tetrahedral
Option D	3 and is triangular
Correct Option	**A**

Q. No. 83 0082083	**In presence of catalyst, E_a is lowered by 2 kcal at 27° C. Hence, rate will be**
Option A	2 times
Option B	20 times
Option C	28 times
Option D	14 times
Correct Option	**C**

Q. No. 84 0082084	**What function of [X], plotted against time, will give a straight line for a second order reaction**
Option A	$[X]^2$
Option B	[X]
Option C	log [X]
Option D	1/[X]
Correct Option	**D**

Q. No. 85 0082085	**Which of the following is correct**
Option A	Order of a reaction is an experimentally determined quantity
Option B	Order can be fractional or zero

Option C	Molecularity of a reaction can never be zero
Option D	All of the above
Correct Option	**D**

Q. No. 86 0082086	**Which has maximum osmotic pressure at temperature T**
Option A	300 ml of 1M glucose
Option B	100 ml of 1M urea solution
Option C	Mixture of 100 ml of 1M urea solution and 300 ml of 1 M glucose solution
Option D	All are isotonic
Correct Option	**D**

Q. No. 87 0082087	**When mercuric iodide is added to the aqueous solution of potassium iodide, then**
Option A	Freezing point is lowered
Option B	Freezing point is raised
Option C	Freezing point does not change
Option D	None of the above
Correct Option	**A**

Q. No. 88 0082088	**Colligative properties depend on the**
Option A	Concentration of solute particles in solution
Option B	Identity of solute
Option C	Both a and b
Option D	None
Correct Option	**A**

Q. No. 89 0082089	**Repeated use of which one of the following fertilizers would increase the acidity of soil**
Option A	Potassium nitrate
Option B	Urea
Option C	Ammonium sulphate
Option D	Superphosphate of lime
Correct Option	**C**

Q. No. 90 0082090	**Interhalogen compounds can be**
Option A	BrF_5
Option B	$BrCl_5$
Option C	ICl_3
Option D	All are correct
Correct Option	**D**

Q. No. 91 0082091	**The ability of d- block elements to form complexes is due to**
Option A	Small and highly charged ions
Option B	Vacant low energy orbitals to accept lone pair of electrons from ligands

Option C	Both are correct
Option D	None is correct
Correct Option	**C**

Q. No. 92 0082092	**Maximum oxidation state is shown by**
Option A	Fe
Option B	Cr
Option C	Co
Option D	Os
Correct Option	**D**

Q. No. 93 0082093	**In S_N1 Reaction, the intermediate formed is**
Option A	Carbanion
Option B	Carbocation
Option C	Free radical
Option D	No intermediate is formed
Correct Option	**B**

Q. No. 94 0082094	**Ethyl chloride is converted into diethyl ether by**
Option A	Grignard reagent
Option B	Wurtz reaction
Option C	Williamson's synthesis
Option D	Haloform reaction
Correct Option	**C**

Q. No. 95 0082095	**The reaction of phenol with chloroform in presence of sodium hydroxide is**
Option A	Reimer-Tiemann reaction
Option B	Kolbe's reaction
Option C	Claisen condensation
Option D	Perkin reaction
Correct Option	**A**

Q. No. 96 0082096	**Nitration of benzoic acid leads to the formation of**
Option A	*o*-nitrobenzoic acid
Option B	*p*-nitrobenzoic acid
Option C	*o.p*-nitrobenzoic acid
Option D	*m*-nitrobenzoic acid
Correct Option	**D**

Q. No. 97 0082097	**Cyclohexanone can be converted into cyclohexane by**
Option A	NH_2-NH_2/KOH
Option B	Zn-Hg/HCl

Option C	Dilute NaOH
Option D	Both A and B
Correct Option	**D**

Q. No. 98 0082098	**Bakelite is obtained from**
Option A	Phenol and formaldehyde
Option B	Urea and formaldehyde
Option C	Adipic acid and phenol
Option D	Ethylene glucol
Correct Option	**A**

Q. No. 99 0082099	**The simplest amino acid is**
Option A	Tyrosine
Option B	Alanine
Option C	Glycine
Option D	Asparagine
Correct Option	**C**

Q. No. 100 0082100	**Narcotic analgesic is**
Option A	Paracetamol
Option B	Aspirin
Option C	Codeine
Option D	Imetidine
Correct Option	**C**