

Sr. No.	Client Question ID	Question Body and Alternatives	Marks	Negative Marks
Objective Question				
1	1	<p>Commutation relation of J^2 with component J_z is</p> <p>A1 : $[J^2, J_z] = 0$</p> <p>A2 : $[J^2, J_z] = \hbar J_z$</p> <p>A3 : $[J^2, J_z] = i\hbar J_z$</p> <p>A4 : $[J^2, J_z] = J_+$</p>	4.0	1.00
Objective Question				
2	2	<p>The photoelectric cut-off voltage in a certain experiment is 2 V. What is the maximum kinetic energy of photoelectrons emitted?</p> <p>A1 : 6.4×10^{-34} J</p> <p>A2 : 6.4×10^{-19} J</p> <p>A3 : 3.2×10^{-19} J</p> <p>A4 : 3.2×10^{-34} J</p>	4.0	1.00
Objective Question				
3	3	<p>The quantum mechanical operator for the momentum of a particle moving in one dimension is given by</p> <p>A1 : $i\hbar \frac{d}{dt}$</p> <p>A2 : $-i\hbar \frac{d}{dt}$</p> <p>A3 : $i\hbar \frac{\partial}{\partial t}$</p> <p>A4 : $-i\hbar \frac{\partial}{\partial t}$</p>	4.0	1.00
Objective Question				
4	4	<p>The ratio of $(h^2+k^2+l^2)$ values for allowed reflection from simple cubic crystal is</p>	4.0	1.00

A1
: 1:2:3:4:5:6:8:9:10:11:12

A2
: 1: 4:6:8:10:12:14:16:18:20

A3
: 3:4:8:11:12:16:19:20

A4
: 3:8:11:16:19:20

Objective Question

5	5	In the following Maxwell equation which is incorrect one (U is internal energy, S is entropy, T is temperature, P is pressure, V is volume, A is Helmholtz free energy, H is enthalpy, and G is Gibbs free energy).	4.0	1.00
		A1 : $dU = TdS - PdV$		
		A2 : $dA = -SdT - PdV$		
		A3 : $dH = TdS + VdP$		
		A4 : $dG = TdS + PdV$		

Objective Question

6	6	The SI unit of Poynting vector is	4.0	1.00
		A1 : W/m^2		
		A2 : Wm^2		
		A3 : J/m^2		
		A4 : $J.m^2$		

Objective Question

7	7	Gauss' law for magnetic fields, states that the net magnetic flux through any Gaussian surface is	4.0	1.00
		A1 : Zero		
		A2 : Unity		
		A3 : Greater than 1		
		A4 : Infinity		

Objective Question				
8	8	<p>How many electrons can be adjusted into three dimensional harmonic oscillator upto energy levels $\frac{5}{2} \hbar \omega$</p> <p>A1 : 6 electrons</p> <p>A2 : 8 electrons</p> <p>A3 : 12 electrons</p> <p>A4 : 16 electrons</p>	4.0	1.00
Objective Question				
9	9	<p>Identify the correct statement for the following vectors $a=3i+2j$ and $b=i+2j$, where a, i and j are vectors</p> <p>A1 : The vectors a and b are linearly independent</p> <p>A2 : The vectors a and b are linearly dependent</p> <p>A3 : The vectors a and b are orthogonal</p> <p>A4 : The vectors a and b are normalized</p>	4.0	1.00
Objective Question				
10	10	<p>If three non interacting fermion have to be adjusted in first excited state of one dimensional harmonic oscillator of angular frequency ω, then total energy of the system is given by</p> <p>A1 : $\frac{3}{2} \hbar \omega$</p> <p>A2 : $\frac{5}{2} \hbar \omega$</p> <p>A3 : $\frac{7}{2} \hbar \omega$</p> <p>A4 : $\frac{9}{2} \hbar \omega$</p>	4.0	1.00
Objective Question				
11	11	<p>In the Debye model for a three dimensional crystal the internal energy U at low temperature is given by</p> <p>A1 : $U \propto T$</p>	4.0	1.00

A2 $U \propto T^2$
:

A3 $U \propto T^3$
:

A4 $U \propto T^4$
:

Objective Question

12	12	The critical temperature T_c below which a boson to undergo Bose-Einstein condensation is	4.0	1.00
		A1 $T_c \propto n^{2/3} k_B$:		
		A2 $T_c \propto n^{2/3} m$:		
		A3 $T_c \propto n^{2/3}$:		
		A4 $T_c \propto m k_B$:		

Objective Question

13	13	When work W is done on an ideal gas of N diatomic molecules in thermal isolation the temperature increases by:	4.0	1.00
		A1 $W/2Nk$:		
		A2 $W/3Nk$:		
		A3 $2W/3Nk$:		
		A4 $2W/5Nk$:		

Objective Question

14	14	In an antiferromagnet the susceptibility above the Neel temperature has the form	4.0	1.00
		A1 $\chi = 2C(T + \Theta)$:		
		A2 $\chi = \frac{2c}{(T + \Theta)}$:		
		A3 $\chi = C(2T - \Theta)$:		
		A4 $\chi = \frac{2c}{(2T - \Theta)}$:		

Objective Question

15	15	The wavelength of red helium-neon laser in air is 632 nm. What happens to its frequency in glass that has a refractive index of 1.50 ?	4.0	1.00
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A1
: Increases by a factor of 1.5

A2
: Decreases by a factor of 1.5

A3
: Remains the same

A4
: Decrease by a factor of 0.5

Objective Question

16	16	A cube has a constant electric potential V on its surface. If there are no charges inside the cube, the potential at the center of the cube is	4.0	1.00
		A1 : $V/8$		
		A2 : 0		
		A3 : V		
		A4 : $V/2$		

Objective Question

17	17	Photons in a cavity follows distribution function $[n(E)]$ is (k = Boltzmann constant, T =temperature and E_f = Fermi energy)	4.0	1.00
		A1 : $n(E) = \frac{1}{e^{kT} + 1}$		
		A2 : $n(E) = \frac{1}{e^{\frac{E_f - E}{kT}} + 1}$		
		A3 : $n(E) = \frac{1}{e^{kT} - 1}$		
		A4 : $n(E) = \frac{1}{e^{\frac{E + E_f}{kT}} - 1}$		

Objective Question

18	18	On application of weak magnetic field the sodium line arising due to the transition ${}^2P_{3/2} \rightarrow {}^2S_{1/2}$ will split ideally into	4.0	1.00
		A1 : 2 components		
		A2 : 4 components		

A3 6 components

:

A4 10 components

:

Objective Question

19	19	<p>The value of $\langle \Delta T \Delta P \rangle$ for a monoatomic ideal gas is</p> <p>A1 $\frac{3 kT^2}{2 P}$:</p> <p>A2 $\frac{2 kT^2}{3 V}$:</p> <p>A3 $\frac{3 kT}{2 P}$:</p> <p>A4 $\frac{2 kT}{3 V}$:</p>	4.0	1.00
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Objective Question

20	20	<p>The logic expression $\bar{A}BC + A\bar{B}C + ABC\bar{C} + A\bar{B}\bar{C}$ can be simplified to</p> <p>A1 A XOR C :</p> <p>A2 A AND C :</p> <p>A3 0 :</p> <p>A4 1 :</p>	4.0	1.00
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Objective Question

21	21	<p>The de Broglie wavelength of a particle with mass 1g and velocity 100 m/s is</p> <p>A1 $6.63 \times 10^{-35} \text{m}$:</p> <p>A2 $6.63 \times 10^{-34} \text{m}$:</p> <p>A3 $6.63 \times 10^{-33} \text{m}$:</p> <p>A4 $6.65 \times 10^{-35} \text{m}$:</p>	4.0	1.00
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Objective Question

22	22	<p>Which of the following do not favour electrovalency?</p>	4.0	1.00
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A1 Low charge on ions
:

A2 High charge on ions
:

A3 Large cation and small anion
:

A4 Small cation and large anion
:

Objective Question

23	23	The bond dissociation energy of gaseous H_2, Cl_2 and HCl are 104, 58 and 103 Kcal/mol respectively .Entropy of formation of HCl gas is	4.0	1.00
		A1 59 Kcal :		
		A2 -265 Kcal :		
		A3 -22 Kcal :		
		A4 -29.5 Kcal :		

Objective Question

24	24	Which of the following is not a colligative property?	4.0	1.00
		A1 osmotic pressure :		
		A2 Elevation in boiling point :		
		A3 Vapour pressure :		
		A4 Depression in freezing point :		

Objective Question

25	25	The Vant Hoff factor of 0.1M $Ba(NO_3)_2$ solution is 2.74.The degree of dissociation is	4.0	1.00
		A1 91.3% :		
		A2 74% :		
		A3 87% :		
		A4 100% :		

Objective Question				
26	26	<p>At 80°C , $[H_3O]^+$ concentration is equal to 1×10^{-6} mole/L. At same temperature the value of K_w is</p> <p>A1 : 1×10^{-3}</p> <p>A2 : 1×10^{-6}</p> <p>A3 : 1×10^{-9}</p> <p>A4 : 1×10^{-12}</p>	4.0	1.00
Objective Question				
27	27	<p>On adding few drops of dilute HCl to freshly precipitated ferric hydroxide, a red coloured colloidal solution is obtained .This phenomenon is known as</p> <p>A1 : Peptisation</p> <p>A2 : Dialysis</p> <p>A3 : Protective action</p> <p>A4 : Dissolution</p>	4.0	1.00
Objective Question				
28	28	<p>For an endothermic reaction , where ΔH represents the enthalpy of the reaction in KJ/mol, the minimum value for the energy of activation will be</p> <p>A1 : Less than ΔH</p> <p>A2 : Zero</p> <p>A3 : More than ΔH</p> <p>A4 : Equal to ΔH</p>	4.0	1.00
Objective Question				
29	29	<p>Oxygen has an oxidation state of +2 in</p> <p>A1 : H_2O_2</p> <p>A2 : H_2O</p>	4.0	1.00

A3 OF₂
:

A4 SO₂
:

Objective Question

30	30	A solution of 10 ml M/10 FeSO ₄ was titrated with KMnO ₄ solution in acidic medium .The amount of KMnO ₄ will be	4.0	1.00
		A1 5ml of 0.1M :		
		A2 10ml of 0.1M :		
		A3 10ml of 0.5M :		
		A4 10ml of 0.02M :		

Objective Question

31	31	Gallium Arsenide is purified by	4.0	1.00
		A1 Froth – Floatation :		
		A2 Van – Arkel method :		
		A3 Zone – refining method :		
		A4 Electrolytic method :		

Objective Question

32	32	Which of the following has highest solubility product	4.0	1.00
		A1 KOH :		
		A2 CsOH :		
		A3 LiOH :		
		A4 RbOH :		

Objective Question

33	33	Which of the following has no tin in its composition?	4.0	1.00
		A1 Solder :		
		A2 Bronze		

		: A3 Brass : A4 Tin Stone :		
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Objective Question

34	34	Which ion is detected by Nessler's reagent? A1 NH_4^+ : A2 MnO_4^- : A3 PO_4^{3-} : A4 CrO_4^{2-} :	4.0	1.00
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Objective Question

35	35	Separation of petroleum into its components is mostly done by A1 Chromatography : A2 Sublimation : A3 Distillation : A4 Fractional Distillation :	4.0	1.00
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Objective Question

36	36	The alkene that exhibits geometrical isomerism is A1 Propene : A2 2-methylpropene : A3 2-butene : A4 2-methyl-2-butene :	4.0	1.00
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Objective Question

37	37	When primary amines react with chloroform in ethanolic KOH then the product is A1 An isocyanide :	4.0	1.00
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A2
: An aldehyde

A3
: A cyanide

A4
: An alcohol

Objective Question

38	38	O-hydroxytoluene and benzyl alcohol are _____	4.0	1.00
		A1 : Position isomers		
		A2 : Functional isomers		
		A3 : Chain isomers		
		A4 : None of these		

Objective Question

39	39	Treatment of ammonia with excess of ethylchloride will yield	4.0	1.00
		A1 : Diethylamine		
		A2 : Ethane		
		A3 : Tetraethylammonium chloride		
		A4 : Methyl amine		

Objective Question

40	40	Of the following which is a step growth polymer?	4.0	1.00
		A1 : Bakelite		
		A2 : Polyethylene		
		A3 : Teflon		
		A4 : PVC		

Objective Question

41	41	The equation of the hyperbola whose foci are (6, 5), (-4, 5) and eccentricity $5/4$, is	4.0	1.00
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A1
: $\frac{(x-1)^2}{16} - \frac{(y-5)^2}{9} = 1$

A2
: $\frac{x^2}{16} - \frac{y^2}{9} = 1$

A3
: $\frac{(x-1)^2}{16} - \frac{(y-5)^2}{9} = -1$

A4
: None of these

Objective Question

42	42	<p>The value of the integral, $\int_1^2 3^x dx$ is</p> <p>A1 : $\frac{6}{\log 8}$</p> <p>A2 : $\frac{8}{\log 3}$</p> <p>A3 : $\frac{6}{\log 6}$</p> <p>A4 : $\frac{6}{\log 3}$</p>	4.0	1.00
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Objective Question

43	43	<p>If y is a twice differentiable function and $x \cos y + y \cos x = \pi$, then $y'' =$</p> <p>A1 : π</p> <p>A2 : $-\pi$</p> <p>A3 : 0</p> <p>A4 : 1</p>	4.0	1.00
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Objective Question

44	44	<p>If $y = a \ln x + bx^2 + x$ has its extremum values at $x = -1$ and $x = 2$ then</p> <p>A1 : $a = 2, b = -1$</p>	4.0	1.00
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A2 $a = 2, b = -1/2$
:

A3 $a = -2, b = 1/2$
:

A4 None of these
:

Objective Question

45	45	Cards are drawn one by one without replacement from a pack of 52 cards. The probability that 10 cards will precede the first ace is A1 $251/1456$: A2 $164/4165$: A3 $451/881$: A4 $52/5427$:	4.0	1.00
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Objective Question

46	46	If the centroid of the triangle formed by points (a, b) , (b, c) and (c, a) is at the origin, then $a^3 + b^3 + c^3 =$ A1 0 : A2 abc : A3 $3abc$: A4 $-3abc$:	4.0	1.00
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Objective Question

47	47	The value of the integral, $\int_0^1 (x^2 + 3) dx$ A1 $10/7$: A2 $10/9$: A3 $10/21$: A4 $10/3$:	4.0	1.00
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Objective Question

48	48	<p>If vector $\vec{a} = \vec{i} + \vec{j} - \vec{k}$; $\vec{b} = \vec{i} - \vec{j} + \vec{k}$; and $\vec{c} = \vec{i} - \vec{j} - \vec{k}$, then the value of $\vec{a} \times (\vec{b} \times \vec{c})$</p> <p>A1 $\vec{i} - \vec{j} + \vec{k}$:</p> <p>A2 $2\vec{i} - 2\vec{j}$:</p> <p>A3 $3\vec{i} - \vec{j} + \vec{k}$:</p> <p>A4 $2\vec{i} + 2\vec{j} - \vec{k}$:</p>	4.0	1.00
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Objective Question

49	49	<p>If the matrix A is singular then,</p> <p>A1 Its determinant value is infinite :</p> <p>A2 Its determinant value is zero :</p> <p>A3 Its determinant value cannot be obtained :</p> <p>A4 $A = A^{-1}$:</p>	4.0	1.00
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Objective Question

50	50	<p>The value of $\sum_{r=1}^n \frac{{}^n P_r}{r!}$ is</p> <p>A1 $2^n - 1$:</p> <p>A2 2^n :</p> <p>A3 2^{n-1} :</p> <p>A4 $2^n + 1$:</p>	4.0	1.00
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Objective Question

51	51	<p>A set of elements is said to be Group if it has</p> <p>A1 Closure property :</p> <p>A2 Associative :</p> <p>A3 identity and inverse :</p>	4.0	1.00
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A4 All of these
:

Objective Question

52	52	What is the missing number in the series: 1, 1, 2, 6, 24, 120, ?, 5040	4.0	1.00
		A1 360 :		
		A2 720 :		
		A3 1080 :		
		A4 1440 :		

Objective Question

53	53	Slope of a line passing parallel to y axis is	4.0	1.00
		A1 0 :		
		A2 ∞ :		
		A3 1 :		
		A4 None of these :		

Objective Question

54	54	$\int_{-\pi/2}^{\pi/2} \sin x dx = ?$	4.0	1.00
		A1 1/2 :		
		A2 $\frac{\sqrt{3}}{4}$:		
		A3 -1/2 :		
		A4 0 :		

Objective Question

55	55	Integrating factor of differential equation, $\cos x \frac{dy}{dx} + y \sin x = 1$ is	4.0	1.00
		A1 $\cos x$:		

A2
: tanx

A3
: sinx

A4
: secx

Objective Question

56 56

If $\cos A = \frac{3}{4}$, then what is $32\sin(A/2)\sin(5A/2)$?

4.0

1.00

A1
: 7

A2
: 8

A3
: 11

A4
: 15

Objective Question

57 57

Gamma function $\Gamma(n)$ is defined for $n > 0$ as

4.0

1.00

A1
: $\int_0^{\infty} e^{-x} x^{n+1} dx$

A2
: $\int_0^{\infty} e^{-x} x^{n-1} dx$

A3
: $\int_0^{\infty} e^x x^{n-1} dx$

A4
: $\int_0^{\infty} e^{-x} x^{2n-1} dx$

Objective Question

58 58

The table gives the values of $f(x)$ as

x	0	0.5	1
f(x)	1	0.8	0.5

The value of $\int_0^1 f(x) dx$ by Trapezoidal rule is

4.0

1.00

A1
: 0.775

A2 0.715
:

A3 0.875
:

A4 0.975
:

Objective Question

59	59	<p>A sequence is defined by the recurrence relation $u_{n+1} = au_n + 3$ with $u_0 = 5$. Find an expression, in terms of a, for u_2.</p> <p>A1 $5a^2 + 3a + 3$:</p> <p>A2 $10a + 30$:</p> <p>A3 $5a^2 + 15$:</p> <p>A4 $2a + 3$:</p>	4.0	1.00
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Objective Question

60	60	<p>If the pair of angular bisectors of the lines $y^2 - 3xy + 2x^2 - 4x + 6y - 16 = 0$ forms a triangle with the line $3x + 4y = 12$, then the orthocentre of triangle is given by</p> <p>A1 (5, 8) :</p> <p>A2 (12, 10) :</p> <p>A3 (10, 12) :</p> <p>A4 (8, 5) :</p>	4.0	1.00
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Objective Question

61	61	<p>Which of the following is correct?</p> <p>A1 Replication starts at a single origin :</p> <p>A2 Replication is bidirectional :</p> <p>A3 Replication is semi conservative :</p> <p>A4 All of these :</p>	4.0	1.00
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Objective Question

62	62	<p>The protein, produced by B cells that binds to a specific antigen is</p> <p>A1 : phagocyte</p> <p>A2 : leukocyte</p> <p>A3 : vaccine</p> <p>A4 : antibody</p>	4.0	1.00
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Objective Question

63	63	<p>What is the normal role of restriction endonucleases in bacterial cells?</p> <p>A1 : To degrade the bacterial chromosome into small pieces during replication</p> <p>A2 : To degrade invading phage DNA</p> <p>A3 : To produce RNA primers for replication</p> <p>A4 : All of these</p>	4.0	1.00
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Objective Question

64	64	<p>DNA differs from RNA in</p> <p>A1 : Presence of deoxyribose sugar</p> <p>A2 : Presence of thymine base</p> <p>A3 : Property of replication</p> <p>A4 : All of these</p>	4.0	1.00
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Objective Question

65	65	<p>Formation of mRNA from DNA is called</p> <p>A1 : Transformation</p> <p>A2 : Transduction</p> <p>A3 : Traslation</p> <p>A4 : Transcription</p>	4.0	1.00
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		:		
Objective Question				
66	66	<p>A plasmid</p> <p>A1 : is a circular DNA molecule</p> <p>A2 : always contains an origin of replication</p> <p>A3 : usually contains one or more restriction sites</p> <p>A4 : all of these</p>	4.0	1.00
Objective Question				
67	67	<p>Beer's Law states that</p> <p>A1 : absorbance is proportional to both the path length and concentration of the absorbing species</p> <p>A2 : absorbance is proportional to the log of the concentration of the absorbing species</p> <p>A3 : absorbance is equal to P_o / P</p> <p>A4 : none of these</p>	4.0	1.00
Objective Question				
68	68	<p>$NADP^+$ is reduced to NADPH during</p> <p>A1 : light dependent reactions</p> <p>A2 : photorespiration</p> <p>A3 : calvincycle</p> <p>A4 : none of these</p>	4.0	1.00
Objective Question				
69	69	<p>Which of the following comes under the category of cell surface receptor?</p> <p>A1 : Enzyme linked receptors</p> <p>A2 : Ion-channel linked receptors</p> <p>A3 : G protein linked receptors</p>	4.0	1.00

A4
: All of these

Objective Question

70	70	The chemical, typically released by the body in an allergic response is	4.0	1.00
		A1 : histamine		
		A2 : allergens		
		A3 : antihistamines		
		A4 : perforins		

Objective Question

71	71	Maltose is composed of	4.0	1.00
		A1 : Galactose + Glucose		
		A2 : Glucose + Fructose		
		A3 : Glucose + Glucose		
		A4 : Galactose + Ribose		

Objective Question

72	72	Which of the following techniques are used in Transmission Electron Microscopy (TEM) for examining cellular structure?	4.0	1.00
		A1 : Negative-Staining		
		A2 : Shadow Casting		
		A3 : Ultrathin Sectioning		
		A4 : All of these		

Objective Question

73	73	Glycolysis can occur in	4.0	1.00
		A1 : aerobic cells		
		A2 : anaerobic cells		

		A3 : both aerobic and anaerobic cells		
		A4 : neither aerobic and anaerobic cells		

Objective Question

74	74	Streptomycin is produced by which of the following organisms?	4.0	1.00
		A1 : Streptomycesnoursei		
		A2 : Streptomyces nodosus		
		A3 : Streptomyces fradiae		
		A4 : Streptomyces griseus		

Objective Question

75	75	The rate-determining step of MichaelisMenten kinetics is	4.0	1.00
		A1 : complex formation step		
		A2 : complex dissociation step to produce product		
		A3 : product formation step		
		A4 : Both complex formation step and product formation step		

Objective Question

76	76	Isoschizomers recognize	4.0	1.00
		A1 : same recognition sequence but different recognition site		
		A2 : same recognition site and recognition sequence		
		A3 : same recognition site and different recognition sequence		
		A4 : different recognition site and different recognition sequence		

Objective Question

77	77	In gel electrophoresis, DNA molecules migrate from _____ ends of the gel.	4.0	1.00
		A1 : negative to positive		
		A2 : basic to acidic		

		: A3 : acidic to basic A4 : positive to negative		
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Objective Question

78	78	In order to insert a foreign gene into a plasmid, both must A1 : have identical DNA sequences A2 : originate from the same type of cell A3 : be cut by the same restriction enzyme A4 : be of the same length	4.0	1.00
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Objective Question

79	79	Oxidation of 3 molecules of glucose by pentose phosphate pathway results in the production of A1 : 3 molecules of pentose, 6 molecules of NADPH and 3 molecules of CO ₂ A2 : 6 molecules of pentose, 6 molecules of NADPH and 3 molecules of CO ₂ A3 : 3 molecules of pentose, 3 molecules of NADPH and 3 molecules of CO ₂ A4 : 6 molecules of pentose, 3 molecules of NADPH and 6 molecules of CO ₂	4.0	1.00
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Objective Question

80	80	Which of the following statements is false? A1 : The reaction tends to go in the forward direction if ΔG is large and positive A2 : The reaction tends to move in the backward direction if ΔG is large and negative A3 : The system is at equilibrium if $\Delta G = 0$ A4 : The reaction tends to move in the backward direction if ΔG is large and positive	4.0	1.00
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Objective Question

81	81	A form of failure that occurs in the structure when subjected to cycles of alternating stress is known as A1 : impact	4.0	1.00
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		<p>A2 fracture toughness :</p> <p>A3 fatigue :</p> <p>A4 creep :</p>		
Objective Question				
82	82	<p>In the case of extrinsic semiconductors, the electrical conductivity depends on</p> <p>A1 carrier concentration and mobility :</p> <p>A2 temperature :</p> <p>A3 bonding :</p> <p>A4 carrier concentration, mobility, temperature and impurity content :</p>	4.0	1.00
Objective Question				
83	83	<p>The mean free path for the electronic conduction is higher in</p> <p>A1 nanowire :</p> <p>A2 quantum dots :</p> <p>A3 nanoparticle :</p> <p>A4 nanotube :</p>	4.0	1.00
Objective Question				
84	84	<p>The Wiedemann-Franz law governs the</p> <p>A1 optical properties of thin films :</p> <p>A2 thermal conductivity of metals :</p> <p>A3 mobility of charge carriers :</p> <p>A4 deformation in plastics :</p>	4.0	1.00
Objective Question				
85	85	<p>A reduction of grain size in a polycrystalline material</p>	4.0	1.00

		<p>A1 : decreases yield strength and corrosion resistance</p> <p>A2 : decreases yield strength but increases corrosion resistance</p> <p>A3 : increases yield strength and corrosion resistance.</p> <p>A4 : increases yield strength but decreases corrosion resistance</p>		
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Objective Question

86	86	<p>The development of water repellant coating owes its property to</p> <p>A1 : elasticity</p> <p>A2 : viscoelasticity</p> <p>A3 : surface tension</p> <p>A4 : surface imperfection</p>	4.0	1.00
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Objective Question

87	87	<p>The dependence of Fermi level (E_F) for a solid having a linear dimension (L) can be given represented as</p> <p>A1 : independent of L</p> <p>A2 : L</p> <p>A3 : 1/L</p> <p>A4 : $1/L^2$</p>	4.0	1.00
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Objective Question

88	88	<p>For extensive solid solubility, as per Hume-Rothery rule, the difference in atomic diameter between solute and solvent atoms should not be more than</p> <p>A1 : 30%</p> <p>A2 : 15%</p> <p>A3 : 1%</p> <p>A4 : 0%</p>	4.0	1.00
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Objective Question

89	89	When FCC iron and BCC iron coexist in equilibrium, the number of degrees of freedom is given by	4.0	1.00
		A1 -1 :		
		A2 0 :		
		A3 1 :		
		A4 2 :		

Objective Question

90	90	The contact angle at which a liquid does not completely wet a solid surface is	4.0	1.00
		A1 180° :		
		A2 90° :		
		A3 45° :		
		A4 0° :		

Objective Question

91	91	If T_m is the melting temperature, the grain growth in a solid occurs in the temperature range of	4.0	1.00
		A1 higher than T_m :		
		A2 $0.1 - 0.2 T_m$:		
		A3 $< 0.4 T_m$:		
		A4 $0.4-1.0 T_m$:		

Objective Question

92	92	The materials such as diamond are brittle as	4.0	1.00
		A1 they possess few dislocations :		
		A2 they do not have any dislocations :		
		A3 the stress to move the dislocations are small :		
		A4 the stress to move the dislocations are high :		

		:		
Objective Question				
93	93	<p>The proper order of coordination number in BCC, FCC and HCP unit cells is</p> <p>A1 : 12, 8, 6</p> <p>A2 : 8, 12, 12</p> <p>A3 : 6, 8, 12</p> <p>A4 : 12, 8, 24</p>	4.0	1.00
Objective Question				
94	94	<p>Among the following, MnO possess</p> <p>A1 : ferromagnetism</p> <p>A2 : paramagnetism</p> <p>A3 : antiferromagnetism</p> <p>A4 : ferrimagnetism</p>	4.0	1.00
Objective Question				
95	95	<p>The rate of the reaction is related to activation energy (E_a), gas constant (R) and temperature (T) by</p> <p>A1 : $\exp(-2E_a/RT)$</p> <p>A2 : $\exp(2E_a/RT)$</p> <p>A3 : $\exp(E_a/RT)$</p> <p>A4 : $\exp(-E_a/RT)$</p>	4.0	1.00
Objective Question				
96	96	<p>The phenomenon of electron cloud oscillation stimulated by electromagnetic radiation, primarily by the nano metallic particle is known as</p> <p>A1 : X-ray photoelectron emission</p> <p>A2 : fluorescence</p> <p>A3 : surface plasmon resonance</p>	4.0	1.00

		: A4 Stoke's effect :		
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Objective Question

97	97	For an elastic material having the Poisson's ratio of 0.4, the ratio of modulus of rigidity to Young's modulus is equal to A1 0.36 : A2 0.75 : A3 1 : A4 1.5 :	4.0	1.00
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Objective Question

98	98	As per Griffith's equation, the fracture stress is proportional to crack length (c) as A1 c : A2 1/c : A3 $1/\sqrt{c}$: A4 $1/c^2$:	4.0	1.00
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Objective Question

99	99	Among the following dielectric materials, which has the highest dielectric constant A1 nafion : A2 mica : A3 PVC : A4 polyethylene :	4.0	1.00
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Objective Question

100	100	Turbulent flow occurs when the Reynolds number becomes _____ or higher. A1 4 : A2 40 :	4.0	1.00
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		A3 400 :		
		A4 4000 :		