Module Name : MTech Nanoscience and Technology-E Exam Date : 18-Sep-2020 Batch : 16:00-18:00

Sr.	Client Question	Question Body and Alternatives	Marks	Negative
No.	ID			Marks
Object 1	tive Question		4.0	1.00
1	1	what is the maximum frequency of X-ray produced by 30 kV electron?	0	1.00
		$ \stackrel{A1}{:} 7.24 \times 10^{18} \text{Hz} $		
		A2 : 7.24 x 10 ²⁶ Hz		
		$^{A3}_{:}$ 4.80 x 10 ¹⁸ Hz		
		$^{A4}_{:}$ 4.80 x 10 ²⁶ Hz		
Object	tive Question			
2	2	The total energy operator is given by	4.0	1.00
		$\stackrel{A1}{:} \hat{E} = i\hbar \frac{\partial}{\partial t}$		
		$\stackrel{A2}{:} \hat{E} = i\hbar \frac{d}{dt}$		
		$\stackrel{A3}{:} \hat{E} = i\hbar \frac{\partial}{\partial x}$		
		$\stackrel{A4}{:} \hat{E} = i\hbar \frac{d}{dx}$		
Object	tive Question			14.00
3	3	Splitting of spectrum lines in a magnetic fields is known as	4.0	1.00
		Al Stark effect		
		A2 : Zeeman effect		
		A3 Voigt effect		
		A4 : Faraday effect		

A1 : 0	
A2 : A+B	
$\stackrel{A3}{:}$ (A+B) \overline{B}	
$\stackrel{A4}{:}$ (A+B) \overline{A}	

Object	Objective Question					
5	5	Debye theory of specific heat is valid at	4.0	1.00		
		A1 Room Temperature				
		A2 low temperature				
		A3 intermediate temperature				
		A4 all temperature				
Object	tive Question					
6	6	Which plane will be present in diffraction pattern of a body centred cubic	4.0	1.00		
		A1 (1 0 0) A2				
		(111)				
		A4 (0 1 0) :				

7	The Fermi-Dirac distribution function $n(E)$] is (k = Boltzmann constant, T=temperature and E _f = Fermi energy)	4.0	1.00
	$\prod_{i=1}^{A1} n(E) = \frac{1}{\frac{E-E_f}{e \ kT} + 1}$		
	$ \stackrel{A2}{:} n(E) = \frac{1}{\frac{E_f - E}{e \frac{E_f - E}{kT} + 1}} $		
	$\stackrel{A3}{:} n(E) = \frac{1}{\frac{E-E_f}{e \ kT} - 1}$		

		$n(E) = \frac{1}{\frac{E + E_f}{e^{\frac{E + E_f}{kT}} - 1}}$		
Obiec	tive Ouestion			
8	8	A sample germanium with intrinsic carrier density if 9.65 x 10^9 cm ⁻³ is doped with 10^{16} phosphorous atoms/cm ³ , then Hall co-efficient is	4.0	1.00
		$^{A1}_{:}$ 625 cm ³ C		
		$\frac{A2}{2}$ -965 cm ³ / C		
		$\frac{A3}{2}$ -625 cm ³ / C		
		$\frac{A4}{2}$ 965 cm ³ / C		
Dbjec	tive Question			
9	9	How many fermions can be adjusted into three dimensional harmonic oscillator upto energy levels $\frac{7}{2}\hbar\omega$	4.0	1.00
		A1 8 electron		
		A2 12 electron		
		A3 : 16 electron		
		A4 20 electron		
Objec	tive Question			
.0	10	The entropy S is proposal to (Ω is number of microstates)	4.0	1.00
		$\sum_{i=1}^{A1} S = \frac{k_B}{\ln \Omega}$		
		$\frac{A2}{2} S = \frac{ln a}{k_B}$		
		$\frac{A3}{2} S = k_B \ln \Omega$		
		$\sum_{i=1}^{A4} S = k_B \Omega$		
Dbjec	tive Question			
.1	11	The nuclear spin and parity of $\frac{40}{20}Ca$ in its ground state is	4.0	1.00
		${}^{A1}_{:} 0^+$		

		A2 : 1 ⁺		
		A3 0-		
		A4 : 1-		
Object	ive Ouestion			
12	12	For the adiabatic expansion of a blackbody radiation enclosure, which of the following is correct?	4.0	1.00
		$\overset{A1}{:}$ V.T = constant		
		$ \frac{A2}{2} V/T = constant $		
		$^{A3}_{:}$ V $^{1/3}$ T = constant		
		$^{A4}_{:}$ V $^{4/3}$ T = constant		
Object	ive Question			
13	13	The Eigen values of an observable associated with a physical quality are 0 and 1. The expectation values of measurements is	4.0	1.00
		A1 0		
		A2 Either 0 or 1		
		A3 between 0 and 1		
		A4 : 1		
Object	ive Question			
14	14	A phosphorous doped silicon semiconductor (doping density: 10 ¹⁷ /cm ³) is heated from 100 °C to 200 °C. Which one of the following statements is CORRECT?	4.0	1.00
		A1 Position of Fermi level moves towards conduction band		
		A2 Position of dopant level moves towards conduction band		
		A3 Position of Fermi level moves towards middle of energy gap		
		A4 Position of dopant level moves towards middle of energy gap		
Object	ive Question		4.0	1.00
	1.5	The magnetic susceptionity is negative for		1.00

		A1 : paramagnetic material only		
		A2 : ferromagnetic material only		
		A3 both paramagnetic and ferromagnetic materials		
		A4 i diamagnetic material only		
Object	tive Question			
16	16	The zeroth law of thermodynamics allows us to define:	4.0	1.00
		A1 : temperature		
		A2 pressure		
		A3 work		
		A4 internal energy		
Object	tive Ouestion			
17	17	The de Broglie wavelength of an electron of energy 200 MeV is	4.0	1.00
		$\frac{A1}{2}$ 0.62 x 10 ⁻⁸ m		
		$\stackrel{A2}{:} 0.62 \times 10^{-10} \mathrm{m}$		
		$ \overset{A3}{:} 0.62 \ge 10^{-12} \text{ m} $		
		$\frac{A4}{2}$ 0.62 x 10 ⁻¹⁴ m		
Ohiaa	tive Question			
18	18	Unit of reduced Dansk's constant (b)is	4.0	1.00
		one of reduced France's constant (v) is		
		$\stackrel{A1}{:} J.s^{-1}$		
		$\frac{A2}{2}$ Kg.m ² . s ⁻¹		
		$\stackrel{A3}{:}$ J.s ¹		
		$\frac{A4}{2}$ Kg.m ² . s ⁻²		
Object	tive Question			

110				1.00
19	19	The Ampere's law with Maxwell's correction term is	4.0	1.00
		$\frac{A1}{:} \ \overline{\nabla} \times \overline{B} = \mu_0 \overline{J} + \mu_0 \varepsilon_0 \frac{\partial \overline{E}}{\partial t}$		
		$ \sum_{i=1}^{A2} \overline{\nabla} \times \overline{B} = \mu_0 \overline{J} + \mu_0 \varepsilon_0 \frac{\partial \overline{B}}{\partial t} $		
		$ \overset{A3}{:} \nabla \times \overline{E} = \mu_0 \overline{J} + \mu_0 \varepsilon_0 \frac{\partial \overline{E}}{\partial t} $		
		$\frac{A4}{:} \ \overline{\nabla} \times \overline{E} = \mu_0 \overline{J} + \mu_0 \varepsilon_0 \frac{\partial B}{\partial t}$		
Objec	tive Question			
20	20	Dimensional formula of solid angle is	4.0	1.00
		$\frac{A^{1}}{2}$ [M L ² T ⁰]		
		$\stackrel{A2}{:} [M L^2 T^{-1}]$		
		$\frac{A3}{2}$ [M L ⁰ T ⁻²]		
		A4 : Dimensionless		
Objec	tive Ouestion			
21	21	How many gram of H_2SO_4 are present in 0.25 mole of H_2SO_4	4.0	1.00
		A1 2.45		
		A2 24.5		
		A3 0.245		
		A4 0.250		

22	22	Which of the following does not contain co-ordinate bond	4.0	1.00
		A1 BH ₄ -		
		$\stackrel{A2}{:}$ NH4 ⁺		
		^{A3} CO ₃ ⁻		
		A4 H ₃ O ⁻		

Objec	tive Question			
23	23	According to Fajan's rule covalent bond is favoured by	4.0	1.00
		Al Large cation and small anion		
		A2 : Large cation and large anion		
		A3 Small cation and small anion		
		A4 Small cation and large anion		
Objec	tive Question			
24	24	Heat of combustion is always	4.0	1.00
		$\stackrel{A1}{:}$ +ve		
		A2 -ve : -ve		
		A3 Neutral		
		A4 All of these		
Ohiec	tive Question			
25	25	The osmotic pressure of a dilute solution is directly proportional to the	4.0	1.00
		A1 Diffusion rate of solute		
		A2 Ionic concentration		
		A3 Boiling point		
		A4 Flow of solvent from a concentrated to a dilute solution :		
Objec	tive Question			
26	26	The vapour density of completely dissociated NH ₄ Cl would be	4.0	1.00
		A1 Same as that of NH ₄ Cl		
		A2 Double than that of NH_4Cl :		
		A3 Half than that of NH_4Cl :		

A4 Slightly less than that of NH_4Cl :

Objec	tive Question			
27	27	What is the conjugate base of OH ⁻ ?	4.0	1.00
		^{A1} _: O ₂		
		A2 H ₂ O		
		A3 : O ⁻		
		^{A4} : 0 ²⁻		

Objective Question							
28	28	In which of the following states the particle size would be greater than 1000 nm?	4.0	1.00			
		A1 Suspension					
		A2 : True solution					
		A3 Colloidal Solution					
		A4 None of these					
Objec	tive Question						
29	29	Collosion theory is applicable to	4.0	1.00			
		A1 : First order reaction					
		A2 : Zero order reaction					
		A3 : Bimolecular reaction					
		A4 : Intramolecular reaction					
Obiec	tive Ouestion						
30	30	The Oxidation number of Fe in $K_3[Fe(CN)_6]$ is	4.0	1.00			
		A1 +2 :					
		A2 +3					

A3 +1 : A4 +4

Objec	tive Question			
31	31	The unit of equivalent conductivity is	4.0	1.00
		A1 Ohm cm		
		$\stackrel{A2}{:} \text{Ohm}^{-1}\text{cm}^{2}(\text{g equivalent})^{-1}$		
		$\frac{A3}{:}$ Ohm cm ² (g equivalent)		
		A4 : Scm ⁻²		

Objective Question

32	32	H ₂ O ₂ has reducing action upon	4.0	1.00
		A1 PbS		
		^{A2} O ₃		
		$\overset{A3}{:}$ H ₂ S		
		A4 Na ₂ SO ₃		

Objec	live Question			
33	The substance not likely to contain $CaCO_3$ is $ \begin{array}{c} A1 \\ Calcined gypsum \\ A2 \\ Sea shells \\ A3 \\ Dolonite \\ A4 \\ A marble statue \\ \end{array} $	The substance not likely to contain CaCO ₃ is	4.0	1.00
		A1 Calcined gypsum		
		A2 Sea shells		
		A3 Dolonite		
		A4 A marble statue		
Objec	tive Question			
34	34	Which is in correct about H ₂ SO ₄ ?	4.0	1.00
		A1 Reducing agent		

		A2 Dehydrating agent		
		A3 Sulphonating agent		
		A4 : Highly viscous		
Object	ive Question			
35	35	Which is paramagnetic?	4.0	1.00
		$\stackrel{A1}{:}$ [Ni(H ₂ O) ₆] ²⁺		
		$\frac{A2}{2}$ [Fe(CN) ₆] ⁴⁻		
		A3 [Ni(CO) ₄]		
		$^{A4}_{:}$ [Ni(CN) ₄] ²⁻		
Object	ive Question			1
36	36	Turpentine oil can be purified by	4.0	1.00
		A1 Vacuum distillation		
		A2 Fractional distillation		
		A3 Steam distillation		
		A4 : Simple distillation		
Object	ive Ouestion			
37	37	Which of the following is strongest base in aqueous solution?	4.0	1.00
		Al Methylamine		
		A2 : Trimethylamine		
		A3 : Aniline		
		A4 Dimethylamine		
Object	ive Question			
38	38	A ketoxime on reduction and followed by acetylation gives	4.0	1.00
		A1 Ethylamine		

:	
A2 : Isopropyl amine	
A3 : Monoacetyl isopropyl amine	
A4 Diacetyl isopropyl amine :	

Objec	live Question			
39	39	Which of the following is not a nucleophile?	4.0	1.00
		A1 : CN ⁻		
		A2 : OH		
		A3 NH ₃		
		A4 BF ₃		
Objec	tive Question			

Ot	ojective	Questi

40	40	Chloroform reaction with concentrated HNO ₃ gives	4.0	1.00
		Al Chloropicrin		
		A2 : Picric acid		
		A3 Acteylene		
		A4 : Nitromethane		





A4 Both statements are correct

Objective Question

45	45	Functions f and g are given by $f(x) = 3x^2 - 1$ and $g(x) = x^2 + 2$. Find an expression for $f(g(x))$	4.0	1.00
		$A^{1}_{:} 4x^{2} + 1$		
		$\frac{A2}{2} 9x^4 + 1$		
		$ \overset{A3}{:} 3x^4 + 5x^2 - 2 $		
		$ \overset{A4}{:} 3x^4 + 12x^2 + 11 $		
Objec	tive Question			

46	46	A circle with centre (-1, 5) passes through the point (2, 1). What is the equation of the circle?	4.0	1.00
		$ \overset{A1}{:} (x+1)^2 + (y-5)^2 = 37 $		
		$ \overset{A2}{:} (x-1)^2 + (y-5)^2 = 37 $		
		$ \overset{A3}{:} (x+1)^2 + (y-5)^2 = 25 $		
		$\stackrel{A4}{:} (x-1)^2 + (y+5)^2 = 25$		

47	47	If the system of linear equations	4.0	1.00	
		x + 2ay + az = 0			
		x + 3by + bz = 0			
		x + 4cy + cz = 0			
		has a non-zero solution, then a h c			
		are in A. P.			
		A2 are in H. P.			
		A^3 : c p			
		are in G.P.			
		A4 satisfy a + 2b + 3c = 0			
Object	ive Question				

	A1 2 sq units :	
	A2 3 sq units	
	A3 4 sq units	
	A4 : 6 sq units	

49	49	Let A (2, -3) and B(-2 , 1) be vertices of a triangle ABC. If the centroid of this triangle moves on the line $2x + 3y = 1$, then the locus of the vertex C is the line	4.0	1.00
		$\begin{array}{c} A1\\ \vdots\\ 2x-3y=7 \end{array}$		
		$\begin{array}{c} A2\\ \vdots\\ 3x+2y=5\end{array}$		
		$\begin{array}{c} A3\\ \vdots\\ 3x-2y=3\end{array}$		
		$\begin{array}{c} A4\\ \vdots\\ 2x+3y=9\end{array}$		
Objec	tive Question			
50	50		4.0	1.00
		Suppose f(x) is differentiable at x = 1 and $\lim_{h \to 0} \frac{1}{h} f(1+h) = 5$, then $f'(x) =$		100
		A1 3		

A2 : 4

A3 5

A4 : 6

j							
51	51	If $2a + 3b + 6c = 0$, then at least one root of the equation $ax^2 + bx + c = 0$ lies in the interval	4.0	1.00			
		A1 (0, 1)					
		A2 (1, 2)					
		A3 (2, 3)					
		A4 (1, 3)					

		:		
Objec	tive Question			
52	52	If y is a twice differentiable function and $x \cos y + y \cos x = \pi$, then y"(0) =	4.0	1.00
		A2 1		
		A_3 : π		
		A4 : π		
Objec	tive Question			
53	53	If $f(x) = x(x - x + 1)$, then	4.0	1.00
		A1 $f(x)$ is continuous but not differentiable at $x = 0$		
		$ \begin{array}{l} A2 \\ \vdots \\ f(x) \text{ is differentiable at } x = 0 \end{array} $		
		A3 $f(x)$ is not differentiable at x = 0		
		A4 none of these		
Ohiec	tive Question			
54	54	The value of $\lim_{x \to 0} \frac{\sqrt{\frac{1}{2}(1 - \cos 2x)}}{x}$ is	4.0	1.00
		A1 1 :		
		A2 -1		
		A3 0		
		A4 none of these :		
Obiec	tive Ouestion			
55	55	The area enclosed between the curve $y = \log e (x+e)$ an the coordinate axes is	4.0	1.00
		A1 1 :		
		A2 2		

A3 3 A4 : 4

Objec	Objective Question						
56	56	The value of $\int_{-2}^{3} 1-x^2 dx$ is	4.0	1.00			
		A1 28/3					
		A2 : 1/3					
		A3 7/3					
		A4 4 :					

Objective Question

57	7	57	$\frac{1}{c}\int \overline{1-x}$	4.0	1.00
			$\int_{0} \sqrt{1+x} dx \text{ is equal to}$		
			$\stackrel{A1}{:} \frac{\pi}{2} + 1$		
			$\stackrel{A2}{:} \frac{\pi}{2} - 1$		
			A3 1		
			A4 π :		

58	58	The value of $\int \frac{\log x}{x^2} dx$ is	4.0	1.00
		$\sum_{i=1}^{A1} \log(x+1) + c$		
		$\frac{A2}{x} - \frac{1}{x}\log(x+1) + c$		
		$\frac{A3}{10}\log(x-1)+c$		
		$\frac{A4}{2} \frac{1}{2} \log(x+1) + c$		

		If $f(x) = \int_{1}^{x} \sqrt{2 - t^2} dt$, then the real roots of the equation $x^2 - f'(x) = 0$ are		
		$\stackrel{A1}{:}$ ±1		
		$\stackrel{A2}{:} \pm \frac{1}{\sqrt{2}}$		
		$\overset{A3}{:} \pm \frac{1}{2}$		
		A4 . 0 and 1		
Object	tive Question			
60	60	The slope of the tangent to a curve $y = f(x)$ at $[x, f(x)]$ is $2x+1$. If the curve passes through the point (1,2), then the area of the region bounded by the curve, the X-axis and the line $x = 1$ is	4.0	1.00
		A1 6		
		A2 : 6/5		
		A3 1 :		
		A4 5/6		
Object	tive Question			
61	61	If a cell is immersed in a concentrated solution, it follow the phenomenon	4.0	1.00
		A1 : Turgor		
		A2 Plasmolysis		
		A3 : Hemolysis		
		A4 Paralysis		
Object	tive Ouestion			
62	62	Plasma membrane is made up of	4.0	1.00
		A1 Protein, lipid, carbohydrate		
		A2 : Lipid, carbohydrate		
		A3 Protein, lipid		

	A4 : Protein		
Objective Question			
63 63	Which one of the following organisms is not an example of eukaryotic cells	4.0	1.00
	Al Amoeba proteus		
	A2 Paramecium caudatum		
	A3 Escherichia coli		
	A4 : Euglena viridis		
Dbjective Question			
54 64	Which one of the following pairs of nitrogenous bases of nucleic acids, is wrongly matched with the category mentioned against it?	4.0	1.00
	Al Adenine, Thymine – Purines		
	A2 : Thymine, Uracil – Pyrimidines		
	A3 : Uracil, Cytosine – Pyrimidines		
	A4 Guanine, Adenine – Purines		
Dbjective Question			
55 65	The two polynucleotide chains in DNA are:	4.0	1.00
	A1 Semiconservative		
	A2 : Parallel		
	A3 : Discontinuous		
	A4 : Antiparallel		
Dijective Question			
66 66	Triacylglycerols are	4.0	1.00
	A1 soluble in water		
	A2 · · · · · ·		

A4 partially soluble in water

Object	ive Ouestion			
67	67	Hydrolysis of lactose yields	4.0	1.00
		A1 galactose and fructose		
		A2 galactose and glucose		
		A3 glucose and fructose		
		A4 fructose and galactose		
Ohiect	ive Question			
68	68	Phospholipid contains	4.0	1.00
		A1 hydrophilic heads and hydrophobic tails		
		A2 : long water-soluble carbon chains		
		A3 positively charged functional groups		
		A4 both long water-soluble carbon chains and positively charged functional groups :		
01: /				
Object	ive Question		4.0	1.00
09	09	In DNA double helix, the two DNA chains are held together by	4.0	1.00
		A1 covalent bonds between the pair of bases :		
		A2 hydrogen bonds between the pair of bases		
		A3 ionic bonds between the pair of bases		
		A4 none of these		
Object	ive Question			
70	70	Which of the following is incorrect?	4.0	1.00
		$\stackrel{A1}{:}$ In DNA double helix, two strands of the DNA are bound with each other with the bases		

		A3 Guanine always pairs with the cytosine		
		A4 None of these		
Objec	tive Question			
71	71	Pyruvic acid before entering the Kreb's cycle is changed into	4.0	1.00
		A1 : Citric acid		
		A2 Succinic acid		
		A3 Acetyl CoA		
		A4 : Malic acid		
Objec	tive Question			
72	72	A noncompetitive inhibitor of an enzyme-catalyzed reaction	4.0	1.00
		A1 increases K_m and increases V_{max} :		
		$\frac{A2}{C}$ increases K_m and reduces V_{max}		
		A3 reduces K_m and increases V_{max} :		
		A4 reduces K_m and reduces V_{max} :		
Objec	tive Question			
73	73	Which of the following enzyme is used to covalently bond foreign DNA to a vector plasmid?	4.0	1.00
		A1 DNA polymerase		
		A2 Restriction endonuclease		
		A3 DNA ligase		
		A4 : DNA helicase		
Objec	tive Question			
74	74	Which of the following statements is true about transmembrane electrical potential?	4.0	1.00
		$\frac{A1}{C}$ The chemical gradient drives Cl ⁻ and K ⁺ inwards		

		$\frac{A2}{2}$ The electrical gradient drives Na ⁺ and Ca ⁺² inwards		
		$\stackrel{A3}{:}$ The chemical gradient drives Na ⁺ and Ca ⁺² inwards and K ⁺ outward		
		A4 The chemical gradient drives Cl ⁻ and K ⁺ outwards		
Objec	tive Question			
5	75	Frame shift mutation may occur as a result of	4.0	1.00
		A1 formation of a thymine-dimer		
		A2 deamination of cytosine to uracil		
		A3 conversion of guanine to xanthine		
		A4 insertion/deletion of a nucleotide in which the number of deleted base pairs is not divisible by three :		
Objec	tive Question			
6	76	COVID-19 is	4.0	1.00
		A1 DNA-Virus		
		A2 RNA-Virus		
		A3 Bacteria		
		A4 Blue Green Algae		
Objec	tive Question			
7	77	A totipotent cell means	4.0	1.00
		A1 An undifferentiated cell capable of developing into a system or entire plant :		
		A2 An undifferentiated cell capable of developing into an organ		
		A3 An undifferentiated cell capable of developing into complete embryo		
		A4 Cell which lacks the capability differentiate into an organ or system		
Dbjec	tive Question			
78	78	Reverse transcriptase produces	4.0	1.00

	A1 DNA from peptides	
	A2 RNA from DNA :	
	A3	
	RNA from RNA	
	A4 : DNA from RNA	
Objective Question		

79	79	Zinc finger are characteristics of	4.0	1.00
		A1 Blood clotting proteins		
		A2 : DNA claperones		
		A3 DNA binding proteins		
		A4 : :		
Object	tive Question			
80	80	Average diameter of COVID-19 particle in	4.0	1.00
		A1 micro meter		
		A2 : nano meter		
		A3 feet		
		A4 inches		

Objec					
81	81	The Charpy V notch test provides information on	4.0	1.00	
		A1 the energy absorbed by a material during fracture			
		A2 the energy absorbed during creep			
		A3 hardness			
		A4 the fatigue failure			
Objec	tive Question				

82	82	Hume-Rothery rules are associated with	4.0	1.00
		A1 phase diagram :		
		A2 superconductors		
		A3 thermal expansion		
		A4 solid solubility		
Object	tive Question			
83	83	The dislocation observed in materials is a defect	4.0	1.00
		A1 casting defect		
		A2 line		
		A3 plane		
		A4 point :		
Object	tive Question			
84	84	Covalent and ionic solids are not suitable as structural components because of their	4.0	1.00
		A1 ductility		
		A2 brittleness		
		A3 high elastic moduli :		
		A4 low melting point		
Object	tive Question			
85	85	In heat treatment techniques, quenching process refers to	4.0	1.00
		A1 rapid heating		
		A2 rapid cooling		
		A3 slow heating		
		A4 slow cooling		

Objec	tive Question			
86	86	The entropy value of pure crystalline material at absolute zero is A1 0.01 J/mol/K :	4.0	1.00
		A2 0.1 J/mol/K		
		A3 1 J/mol/K		
		A4 0 J/mol/K		
Objec	tive Question		1	1
87	87	A1 turbine components	4.0	1.00
		A2 solid oxide fuel cells		
		A3 polymers		
Obiec	tive Question	: tensile strength		
88	88	Iron alloy containing less than $\sim 2\%$ of carbon is known as	4.0	1.00
		A1 ferrite		
		A2 cast iron		
		A3 steel		
Obiac	tive Question	A4 : wrought iron		
89	89	The number of degrees of freedom for a solution containing salt dissolved in water	4.0	1.00
		A1 3		
		A2 2		
		A3 1 :		

		A4 0		
Objec	tive Question			
90	90	The failure that occurs as a result of alternating cycles of loading and unloading is known as	4.0	1.00
		A1 strain hardening :		
		A2 fatigue		
		A3 ductile to Brittle transition		
		A4 creep		
Objec	tive Question			
91	91	Czochralski method is related to	4.0	1.00
		A1 thin film growth		
		A2 layer-by-layer growth		
		A3 island growth		
		A4 single crystal growth		
Objec	tive Question			
92	92	The oxide film should be in order to provide a good oxidation resistance.	4.0	1.00
		A1 low in electrical conductivity		
		A2 : high electrical conductivity		
		A3 continuous		
		A4 porous		
Ohiaa	tive Question			
93	93	The highest electrical conductivity among the following is shown by	4.0	1.00
		A1 copper		
		A2 aluminum		
		A3 silver		

:	
A4 : gold	

Objec	ojective Question				
94	94	The process of brazing is associated with	4.0	1.00	
		A1 forming technique			
		A2 joining technique			
		A3 : extrusion technique			
		A4 forging technique			
Objec	tive Question				

95	95	Jominy end quench test is associated with the measurement of	4.0	1.00
		A1 : crack resistance		
		A2 tensile stress		
		A3 hardenability		
		A4 : fracture toughness		

Objective Question					
96	96	The element which occurs in the metallic form in nature	4.0	1.00	
		A1 Ag			
		A2 Au			
		A3 Al			
		A4 Fe			
Object	ive Question				
97	97	The ability of a material to absorb energy in the plastic regime is known as	4.0	1.00	
		A1 elasticity			
		A2 fatigue			

		A3 : creep		
		A4 resilience		
Objecti	ve Question			
98	98	The solubility of hydrogen in steel leads to	4.0	1.00
		Al better weldability		
		A2 yield strength decrease		
		A3 : embrittlement		
		A4 photocatalysis		
Obiecti	ve Ouestion			
99	99	The rusting of iron component leads to	4.0	1.00
		A1 an increase in weight		
		A2 : a reduction in weight		
		A3 : a constant weight		
		A4 no change in colour and weight		
Objecti	ve Question			
100	100	In the vulcanization process, the natural rubber is heated with	4.0	1.00
		A1 carbon		
		A2 silicon		
		A3 sulphur		
		A4 phosporous		