Test Booklet No. _____

This booklet consists of 100 questions and 11 printed pages.

RGUCET/2024/__/_

Series NIL

RGUCET 2024
Common Entrance Test, 2024

MASTER OF SCIENCE (CHEMISTRY)

Full Marks: 100 **Time: 2 Hours**

Roll No. | | | | | | | | |

Day and Date of Examination: _____

Signature of Invigilator(s) _____

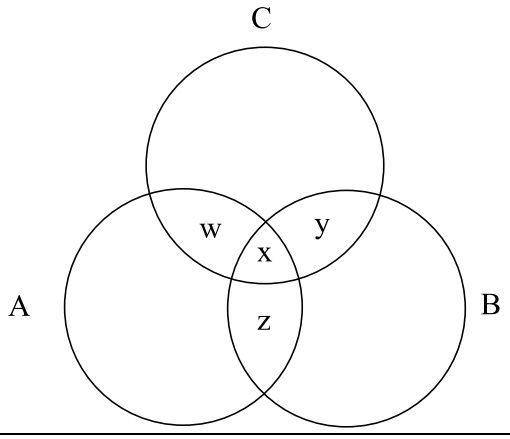
Signature of Candidate _____

General Instructions:

PLEASE READ ALL THE INSTRUCTIONS CAREFULLY BEFORE MAKING ANY ENTRY.

1. DO NOT OPEN THIS TEST BOOKLET UNTIL YOU ARE TOLD TO DO SO.
2. Candidate must write his/her Roll Number on the space provided.
3. This Test Booklet contains 100 Multiple Choice Questions (MCQs) from the concerned subject. Each question carries 1 mark. There shall be negative marking of 0.25 against each wrong attempt.
4. Please check the Test Booklet to verify that the total pages and total number of questions contained in the test booklet are the same as those printed on the top of the first page. Also check whether the questions are in sequential order or not.
5. Candidates are not permitted to enter into the examination hall after the commencement of the entrance test or leave the examination hall within one hour thirty minutes.
6. Making any identification mark in the OMR Answer Sheet or writing Roll Number anywhere other than the specified places will lead to disqualification of the candidate.
7. Candidates shall maintain silence inside and outside the examination hall. If candidates are found violating the instructions mentioned herein or announced in the examination hall, they will be summarily disqualified from the entrance test.
8. In case of any dispute, the decision of the Entrance Test Committee shall be final and binding.
9. The OMR Answer Sheet consists of two copies, the Original copy and the Student's copy.

<table>
<tr><td>1</td><td colspan="4">Change the narration:
He said, “I wish I were a king!”</td><td>d</td></tr>
<tr><td></td><td>a) He wanted to become a king</td><td>b) He said that he was a king.</td><td>c) He is a king.</td><td>d) He expressed his desire to be a king.</td><td>He expressed his desire to be a king.</td></tr>
<tr><td>2</td><td colspan="4">Fill in the blank using appropriate possessive determiners:
------- house is just across the park.</td><td>c</td></tr>
<tr><td></td><td>a) The</td><td>b) A</td><td>c) My</td><td>d) This</td><td>My</td></tr>
<tr><td>3</td><td colspan="4">Saikhom Mirabai Chanu won an Olympic medal for India in-</td><td>c</td></tr>
<tr><td></td><td>a) Wrestling</td><td>b) Arm wrestling</td><td>c) Weight lifting</td><td>d) Gymnastics</td><td>Weight lifting</td></tr>
<tr><td>4</td><td colspan="4">Fill in the blank using appropriate modal verb:
None------- question the ways of God.</td><td>a</td></tr>
<tr><td></td><td>a) can</td><td>b) could</td><td>c) will</td><td>d) would</td><td>can</td></tr>
<tr><td>5</td><td colspan="4">The correct match of synonyms in the following is:
<table><tr><td>A. ambiguous</td><td>i. counterfeit</td></tr><tr><td>B. bogus</td><td>ii. doubtful</td></tr><tr><td>C. candid</td><td>iii. elegant</td></tr><tr><td>D. urbane</td><td>iv. frank</td></tr></table></td><td>a</td></tr>
<tr><td></td><td>a) A: ii, B: i, C: iv, D: iii</td><td>b) A: i, B: ii, C: iv, D: iii</td><td>c) A: i, B: ii, C: iii, D: iv</td><td>d) A: iv, B: ii, C: iii, D: i</td><td>A: ii, B: i, C: iv, D: iii</td></tr>
<tr><td>6</td><td colspan="4">Which of the following North-East Indian state is the first organic state of India?</td><td>d</td></tr>
<tr><td></td><td>a) Arunachal Pradesh</td><td>b) Mizoram</td><td>c) Meghalaya</td><td>d) Sikkim</td><td>Sikkim</td></tr>
<tr><td>7</td><td colspan="4">The true statements amongst the following are:
A. The national game of India is hockey.
B. The national game of India is Kabaddi.
C. The Dehing-Patkai National Park is in Assam.
D. The Hornbill Festival is celebrated in Arunachal Pradesh.</td><td>b</td></tr>
<tr><td></td><td>a) A, C, D</td><td>b) A, C</td><td>c) B, C, D</td><td>d) B, C</td><td>A, C</td></tr>
<tr><td>8</td><td colspan="4">Which of the following is not a classical dance form of India?</td><td>d</td></tr>
<tr><td></td><td>a) Kathakali</td><td>b)Sattriya</td><td>c) Manipuri</td><td>d) Dandiya</td><td>Dandiya</td></tr>
<tr><td>9</td><td colspan="4">The correct match of Nobel prize winners of Indian origin and the respective subject in the following is:
<table><tr><td>A. Venkatraman Ramakrishnan</td><td>i. Physics</td></tr><tr><td>B. Subrahmanyan Chandrasekhar</td><td>ii. Chemistry</td></tr><tr><td>C. Har Gobind Khorana</td><td>iii. Literature</td></tr><tr><td>D. Rabindranath Tagore</td><td>iv. Medicine</td></tr></table></td><td>b</td></tr>
<tr><td></td><td>a) A: i, B: ii, C: iv, D: iii</td><td>b) A: ii, B: i, C: iv, D: iii</td><td>c) A: i, B: ii, C: iii, D: iv</td><td>d) A: iv, B: iii, C: ii, D: i</td><td>A: ii, B: i, C: iv, D: iii</td></tr>
</table>

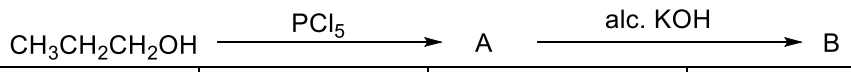
10	The Satish Dhawan Space Centre from where India successfully launched Chandrayaan-3 is located in-				c
	a) Tamil Nadu	b) Orissa	c) Andhra Pradesh	d) Maharashtra	Andhra Pradesh
11	The youngest state of India is-				d
	a) Sikkim	b) Manipur	c) Ladakh	d) Telangana	Telangana
12	Identify the prime number.				c
	a) 161	b) 221	c) 373	4) 437	373
13	The pH of normal rain water is.				b
	a) 4.1	b) 5.6	c) 7.1	d) 8.4	5.6
14	Vernier Caliper is used to measure.				b
	a) Temperature	b) Dimension	c) Time	d) Pressure	Dimension
15	The air bubble inside the water behaves as a				a)
	a) Concave lens	b) Convex lens	c) Both concave and convex lens	d) Neither concave nor convex lens	Concave lens
16	If the given radius of the sphere is "r", then the surface area of the sphere is.				c
	a) $4/3\pi r^3$	b) πr^2	c) $4\pi r^2$	d) $4\pi r^3$	$4\pi r^2$
17	Messi runs with a speed of 2 km/h from goal post A to goal post B. Then he returns from goal post B to goal post A at a speed of 4 km/h. What is the average speed of his entire run?				a
	a) 2.67 km/h	b) 2.89 km/h	c) 3.53 km/ h	d) 4.0 km/h	2.67 km/h
18	Given below is a diagram of three circles A, B & C inter-related with one another. The circle A represents the class of students, the circle B represents the class of chemistry students and circle C represents the class of sportsman. w, x, y, z ... represent different regions. Select the code containing the region that indicates the class of chemistry students who are not sportsman. 				c

	a) w and y only	b) x and z only	c) z only	d) w only	Z only
19	The full form of FSSAI is.				d
	a) Food Security and Standards Authority of India	b) Food Security and Safety Authority of India	c)Food Safety and Security Authority of India	d) Food Safety and Standards Authority of India	Food Safety and Standards Authority of India
20	A has 100 apples. A gave 1/2 of his apples to B and 1/4 of his apples to C. What is the percentage of apples B has with respect to C.				d
	a) 50 %	b) 100 %	c)150 %	d) 200 %	200 %
21	An alkaline (NaOH) solution of a compound produces a yellow-colored solution on addition of $NaBO_3$. The compound is				a
	a) $Mn(OH)_2$	b) $Fe(OH)_3$	c) $Cr(OH)_3$	d) $Pb(OH)_2$	$Mn(OH)_2$
22	The separation (in nm) of {134} planes of an orthorhombic unit cell (with cell parameters a = 0.5 nm, b = 0.6 nm, and c = 0.8 nm) is				b
	a)0.036	b) 0.136	c) 0.236	d) 0.336	0.136
23	The geometry of $[VO(acac)_2]$ is				b
	a) Trigonal bipyramidal	b) Square pyramidal	c) Pentagonal planar	d) Distorted trigonal bipyramidal	Square pyramidal
24	The role of fluorspar in the electrolytic reduction of Al_2O_3 is to				c
	a) increase the melting point of Al_2O_3	b) prevent the corrosion of anode	c) improve the electrical conductivity of the melt	d) prevent the radiation loss of heat	improve the electrical conductivity of the melt
24	The structure types of $B_{10}H_{10}^{2-}$ and $B_{10}H_{14}$, respectively, are				a
	a) closo and nido	b) nido and arachno	c) nido and closo	d) closo and arachno	closo and nido
26	Among the following, the biomolecule with a direct metal-carbon bond is				a
	a) Coenzyme B_{12}	b) Nitrogenase	c) Chlorophyll	d) Hemoglobin	Coenzyme B_{12}
27	The reasons for the lower stability of Si_2H_6 compared to C_2H_6 is/are A) Si–Si bond is weaker than C–C bond B) Si–H bond is weaker than C–H bond C) the presence of low-lying d-orbitals in silicon D) silicon is more electronegative than hydrogen				a
	a) A and B	b) B and C	c) C and D	d) A and D	A and B
28	The common point defect(s) in a solid is/are: A) Frenkel defect B) Wadsley defect C) Schottky defect				c

	D) Suzuki defect				
	a) A and B	b) A and D	c) A and C	d) C and D	A and C
29	Hybridization of the central atoms in I_3^-, ClF_3 and SF_4, respectively, are				c
	a) sp^3d, sp^2 and dsp^2	b) sp, sp^3d and dsp^2	c) sp^3d, sp^3d and sp^3d	d) sp, sp^2 and sp^3d	sp^3d, sp^3d and sp^3d
30	The correct statements about sodium nitroprusside are A) It contains nitrosyl ligand as NO^+ B) It is a paramagnetic complex C) It is used for the detection of S^{2-} in aqueous solution D) Nitroprusside ion is formed in the brown ring test for nitrates				a
	a) A and C	b) A and B	c) C and D	d) A and D	A and C
31	The total number of microstates possible for a d^8 electronic configuration is_____.				a
	a) 45	b) 55	c) 25	d) 27	45
32	One of the products of the hydrolysis of calcium phosphide at 25 °C is				c
	a) phosphoric acid	b) phosphorus pentoxide	c) phosphine	d) white phosphorus	phosphine
33	Brass is an alloy of which of the following metals?				c
	a) Zinc and Nickel	b) Lead and Tin	c) Copper and Zinc	d) Copper and Tin	Copper and Zinc
34	Among the following compounds, the one having the lowest boiling point is				c
	a) $SnCl_4$	b) $GeCl_4$	c) $SiCl_4$	d) CCl_4	$SiCl_4$
35	When potassium ferrocyanide crystals are heated with concentrated sulphuric acid, the gas evolved is				d
	a)sulphur dioxide	b) ammonia	c) carbon dioxide	d) carbon monoxide	carbon monoxide
36	Silver nitrate produces a black stain on the skin due to				d
	a) its corrosive action	b) being a strong reducing agent	c) formation of complex compound	d) its reduction to metallic silver	its reduction to metallic silver
37	Match List I with List II A) $[Co(NH_3)_5(NO_2)]Cl_2$ — i) Solvate isomerism B) $[Co(NH_3)_5(SO_4)]Br$ — ii) Linkage isomerism C) $[Co(NH_3)_6][Cr(CN)_6]$ — iii) Ionization isomerism D) $[Co(H_2O)_6]Cl_3$ — iv) Coordination isomerism				a
	a) A-ii; B-iii; C-iv; D-i.	b) A-i; B-iii; C-iv; D-ii.	c) A-i; B-iv; C-iii; D-ii.	d) A-i; B-iv; C-iii; D-i.	A-ii; B-iii; C-iv; D-i
38	Given below two statements: Statement I: Both $[Co(NH_3)_6]^{3+}$and $[CoF_6]^{3-}$ complexes are octahedral but differ in their magnetic behaviour. Statement II: $[Co(NH_3)_6]^{3+}$is diamagnetic, whereas $[CoF_6]^{3-}$ is paramagnetic. In the light of the above statements, choose the correct answer from the options below.				a

	a) Both Statement I and Statement II are true.	b) Both Statement I and Statement II are false.	c) Statement I is true, but statement II is false	d) Statement I is false, but statement II is true	Both Statement I and Statement II are true
39	'Spin only' magnetic moment is the same for which of the following ions? A) Ti^{3+} B) Cr^{2+} C) Mn^{2+} D) Fe^{3+}				d
	a) B and D	b) A and D	c) A and C	d) C and D	C and D
40	Identify the products formed when XeF_6 is subjected to partial hydrolysis				d
	a) XeO_3	b) Xe and XeO_3	c) $XeOF_4$	d) $XeOF_4$, XeO_2F_2, HF	$XeOF_4$, XeO_2F_2, HF
41	The number of P–O–P bond in cyclic metaphosphoric acid is:				c
	a) 1	b) 2	c) 3	d) 0	3
42	The crystal field stabilization energy (CFSE) for $[CoF_6]^{3-}$ is.				b
	a) 0.2 Δ_o	b) 0.4 Δ_o	c) 0.6 Δ_o	d) 0.8 Δ_o	0.4 Δ_o
43	Among the elements F, Ne, Na and Mg the correct order of first ionisation energy is				b
	a) F > Ne > Na > Mg	b) Ne > F > Mg > Na	c) Ne > Na > Mg > F	d) Na > Mg > F > Ne	Ne > F > Mg > Na
44	Dimethylglyoxime is used in the gravimetric estimation of				a
	a) Nickel	b) Sodium	c) Gold	d) chloride	Nickel
45	A spectral line with λ = 6561 Å belongs to which series of Hydrogen atom				c
	a) Pfund	b) Lyman	c) Balmer	d) Paschen	Balmer
46	Which of the following metal can give X-rays of highest frequency				d
	a) Al	b) Ca	c) Fe	d) Zn	Zn
47	The outer electron configuration of Gd (Atomic number 64) is				d
	a)$4f^3 5d^5 6s^2$	b) $4f^8 5d^0 6s^2$	c) $4f^4 5f^4 6s^2$	d) $4f^7 5d^1 6s^2$	$4f^7 5d^1 6s^2$
48	What catalyst is used for oxidation of ammonia to produce nitric acid?				c
	a) Palladium hydride	b) Sodium amalgam	c) Platinum-Rhodium gauze	d) Vanadium (V) oxide	Platinum-Rhodium gauze
49	Which of the following is most stable?				c
	a) $AsCl_5$	b) $SbCl_5$	c) PCl_5	d) $BiCl_5$	PCl_5
50	Which of the following lanthanide ions do not exhibit color?				a
	a) Lu^{3+} and Ln^{3+}	b) Lu^{2+} and Ln^{2+}	c) Pr^{4+} and Ce^{4+}	d) Ce^{3+} and Ce^{4+}	Lu^{3+} and Ln^{3+}
51	Which of the following is the correct order of arrangement of the first five lanthanides according to atomic number?				b
	a) La, Pr, Ce, Pm, Nd	b) La, Ce, Pr, Nd, Pm	c) La, Pr, Ce, Nd, Pm	d) La, Ce, Pr, Pm, Nd	La, Ce, Pr, Nd, Pm
52	Which of the following metals would have the highest packing efficiency?				b
	a) Potassium	b) Copper	c) Chromium	d) Polonium	Copper

53	What are the percentages of free space in a *ccp* and *simple cubic* lattice?				c
	a) 52% and 74%	b) 48% and 26%	c) 26% and 48%	d) 74% and 52%	26% and 48%
54	If metallic atoms of mass 197 and radius 166 pm are arranged in ABCABC fashion then what is the surface area of each unit cell?				b
	a) 1.32×10^{-18} pm^2	b) 1.32×10^6 pm^2	c) 2.20×10^5 pm^2	d) 2.20×10^{-19} pm^2	1.32×10^6 pm^2
55	For a metallic crystal, which band do the delocalized electrons occupy?				a
	a) Conduction band	b) Valence band	c) Both, conduction and valence bands	d) There are no delocalized electrons	Conduction band
56	Free radicals can be detected by-				b
	a) NMR spectroscopy	b) EPR spectroscopy	c) Mass spectrometry	d) HPLC	EPR spectroscopy
57	Which of the following reaction involvea a carbene intermediate in its mechanistic pathway?				d
	a) Aldol condensation	b) Birch reduction	c) Knoevenagel condensation	d) Reimer-Tiemann reaction	Reimer-Tiemann reaction
58	The isomerism exhibited by 1,2-dimethylcyclopropane is-				a
	a) geometrical isomerism	b) positional isomerism	c) optical isomerism	d) chain isomerism	geometrical isomerism
59	The IUPAC name of CH_3CHO is-				d
	a) acetaldehyde	b) formyl methane	c) methanal	d) ethanal	ethanal
60	Arrange the following free radicals in the order of stability. benzyl (I), allyl (II), vinyl (III), methyl (IV)				c
	a) I>II>III>IV	b) I>III>II>IV	c) I>II>IV>III	d) II>I>IV>III	I>II>IV>III
61	The correct order of leaving group ability is-				a
	a) $I^- > Br^- > Cl^- > F^-$	b) $Br^- > I^- > Cl^- > F^-$	c) $F^- > Cl^- > Br^- > I^-$	a) $I^- > Br^- > F^- > Cl^-$	$I^- > Br^- > Cl^- > F^-$
62	Fastest hydrolysis occurs in-				b
	a) CH_3Cl	b) CH_3OCH_2Cl	c) CH_3CH_2Cl	d) $(CH_3)_2CHCl$	CH_3OCH_2Cl
63	The *meta*- directing group(s) amongst the following is/are- -CHO (I), -OH (II), $-OCH_3$ (III), -COOH (IV)				a
	a) I, IV	b) I	c) IV	d) II, IV	I, IV
64	Identify the correct option- 'rearrangement is possible in-'				b

	S_N1 reactions (I), S_N2 reactions (II), E1 reactions (III), E2 reactions (IV)				
	a) I and II	b) I and III	c) II and IV	b) only in III	I and III
65	In the following sequence of reactions, the product B is- 				b
	a) propyne	b) propene	c) propanol	d) propane	propene
66	Which of the following compounds will undergo self-condensation under basic conditions?				a
	a) acetaldehyde	b) formaldehyde	c) benzaldehyde	d) salicylaldehyde	acetaldehyde
67	Aromatic compounds usually burn with sooty flame because-				a
	a) they have a relatively high percentage of carbon	b) they have a relatively high percentage of hydrogen	c) their ring structure	d) they are too stable	they have a relatively high percentage of carbon
68	*Trans*-dihydroxylation of cyclohexene can be accomplished by-				c
	a) using dilute $KMnO_4$	b) using OsO_4	c) forming the epoxide and then opening the epoxide ring	d) using H^+/H_2O	forming the epoxide and then opening the epoxide ring
69	The catalyst used in the Rosenmund reaction is-				b
	a) Raney nickel	b) $Pd/BaSO_4$	c) Sn/HCl	d) Zn/HCl	$Pd/BaSO_4$
70	The correct order of aromaticity of pyrrole (I), furan (II), thiophene (III) and benzene (IV) is-				b
	a) I<II<III<IV	b) II<I<III<IV	c) II<III<I<IV	d) III<II<I<IV	II<I<III<IV
71	In van der Waals equation of the state of the gas, the constant '*b*' is a measure of				c
	a) intermolecular repulsions	b) intermolecular attractions	c) volume occupied by the molecules	d) intermolecular collisions per unit volume	volume occupied by the molecules
72	Gas A diffuses twice as fast as another gas B. if the vapour density of the gas A is 2, the molecular mass of gas B is				d
	a) 2	b) 4	c) 8	d) 16	16

73	The root mean square velocity of gas molecules is given by				c
	a) $v_{rms} = \sqrt{\frac{RT}{M}}$	b) $v_{rms} = \sqrt{\frac{2RT}{M}}$	c) $v_{rms} = \sqrt{\frac{3RT}{M}}$	d) $v_{rms} = \sqrt{\frac{8RT}{M}}$	$v_{rms} = \sqrt{\frac{3RT}{M}}$
74	A liquid rises in a capillary tube. It is due to				a
	a) surface tension	b) viscosity	c) osmosis	d) effusion	surface tension
75	The reciprocal of viscosity is called				c
	a) surface tension	b) frictional resistance	c) fluidity	d) pressure	fluidity
76	The process of solvation of NH_4Cl in water is				d
	a) Endothermic, non-spontaneous	b) Exothermic, spontaneous	c) Exothermic, non-spontaneous	d) Endothermic, spontaneous	Endothermic, spontaneous
77	The pH of a solution of a salt of weak base and strong acid is				b
	a) greater than 7	b) less than 7	c) equal to 7	d) equal to zero	less than 7
78	If '*s*' is the solubility of AgCl in water, the solubility product is given by				b
	a)$K_{sp} = s$	b) $K_{sp} = s^2$	c) $K_{sp} = s^3$	d) $K_{sp} = s^{1/2}$	$K_{sp} = s^2$
79	In an ionic crystal, a cation and an anion leave the lattice to cause two vacancies. This defect is called				a
	a) Schottky defect	b) Frenkel defect	c) interstitial defect	d) impurity defect	Schottky defect
80	BF_3 has				a
	a) one C_3 axis and $3C_2 \perp C_3$ axis	b) three C_6 axis	c) one C_6 axis and $3C_3 \perp C_6$ axis	d) three C_3 axis	one C_3 axis and $3C_2 \perp C_3$ axis
81	A crystal system is determined by the lengths *a*, *b*, *c,* and the angles α, β, γ of the unit cell. For the orthorhombic system, these are				c
	a) $a = b = c;\ \alpha = \beta = \gamma = 90°$	*b*) $a = b \neq c;\ \alpha = \beta = \gamma = 90°$	*c*) $a \neq b \neq c;\ \alpha = \beta = \gamma = 90°$	*d*) $a \neq b \neq c;\ \alpha \neq \beta \neq \gamma \neq 90°$	$a \neq b \neq c;\ \alpha = \beta = \gamma = 90°$
82	The number of atoms contained within a face centred cubic (fcc) unit cell is				c
	a) 1	b) 2	c) 4	d) 6	4
83	In an adiabatic process……. can flow into or out of the system				a
	a) no heat	b) heat	c) matter	d) heat and matter	no heat
84	When water is cooled to ice, its entropy				b
	a) increases	b) decreases	c) remains the same	d) becomes zero	decreases
85	Which of the following is not an intensive property?				d
	a) pressure	b) concentration	c) density	d) volume	volume
86	For exothermic reaction, ΔH is …….. while for endothermic reaction it is ……..				d
	a) positive; negative	b) positive; positive	c) negative; negative	d) negative; positive	negative; positive

87	The addition of a non-volatile solute ……. the vapour pressure				b
	a) enhances	b) lowers	c) does not affect	d) unpredictable	lowers
88	The osmotic pressure of equimolar solutions of $CaCl_2$, NaCl and urea will be in the order				a
	a) $CaCl_2$ > NaCl > urea	b) $CaCl_2$ < NaCl < urea	c) urea > $CaCl_2$ > NaCl	d) urea < $CaCl_2$ < NaCl	$CaCl_2$ > NaCl > urea
89	Abnormal molecular masses are obtained when there exist				c
	a) dissociation of molecules	b) association of molecules	c) either dissociation or association of molecules	d) none of these	either dissociation or association of molecules
90	The entropy change associated with the expansion of one mole of an ideal gas from an initial volume of V to a final volume of $2.5V$ at constant temperature is (R=gas constant				d
	a) $\Delta S = -R \ln 2.5$	b) $\Delta S = -2.5R \ln(V_f/V_i)$	c) $\Delta S = 2.5R \ln(V_f/V_i)$	d) $\Delta S = R \ln 2.5$	$\Delta S = R \ln 2.5$
91	…… stops as soon as the incident radiation is cut off				a
	a) fluorescence	b) phosphorescence	c) chemiluminescence	d) none of these	fluorescence
92	The number of molecules reacted or formed per photon of light absorbed is called				c
	a) yield of the reaction	b) quantum efficiency	c) quantum yield	d)quantum productivity	quantum yield
93	For first order reactions the rate constant, k has the unit				b
	a) mol^{-1}	b) $time^{-1}$	c) L mol^{-1} $time^{-1}$	d) time mol^{-2} L^{-1}	$time^{-1}$
94	What is the order of the reaction whose rate constant is $2.5 \times 10^{-2} min^{-1}$?				b
	a) zero	b) one	c) two	d) three	One
95	A catalyst will affect the rate of the forward reaction by changing the				a
	a) activation energy	b) heat of reaction	c) heat of formation	d) potential energy of the products	activation energy
96	A plot of log x/m versus log p for the adsorption of a gas on a solid gives a straight line with slope equal to				b
	a) n ; $(n>1)$	b) $1/n$; $(n>1)$	c) log k	d) –log k	$1/n$; $(n>1)$
97	A system with zero-degree of freedom is known as				c
	a) monovariant	b) bivariant	c) invariant	d) polyvariant	invariant
98	Water has three phases: ice, water and vapour. The number of components in the system is				a
	a) one	b) two	c) three	d) four	one
99	For the study of Nernst distribution law, the two solvents should be				b
	a) miscible	b) non-miscible	c) volatile	d) reacting with each other	non-miscible
	The molar conductance of a solution of an electrolyte				a

100	a) increases with dilution	b) decreases with dilution	c) does not vary with dilution	d) unpredictable	increases with dilution