

PREVIEW QUESTION BANK

Module Name : SCPH07 Chemistry - Chemical Science - ENG
Exam Date : 30-Oct-2023 Batch : 14:30-17:30

Sr. No.	Client Question ID	Question Body and Alternatives	Marks	Negativ Marks
Objective Question				
1	973001	Which of the following are the sets of measuring central tendency ? A. Mean B. Standard Deviation C. Median D. Mode 1. A and B 2. B and C 3. A, B, and C 4. A, C, and D A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
Objective Question				
2	973002	Harmful chemicals can enter human body through: 1. Inhalation 2. Ingestion 3. Skin and eye Contact 4. All of the above A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
Objective Question				
3	973003	The meaning of SOP in context of laboratory is 1. Standard operating procedure 2. Standard operating protocol 3. Safety and Operating procedure 4. Safety and open area protocol 1. 1 2. 2 3. 3 4. 4	4.0	0.00

		A1 : 1		
		A2 : 2		
		A3 : 3		
		A4 : 4		

Objective Question

4	973004	Benzene has been discouraged to use in laboratory because it is 1. Carcinogenic 2. Corrosive 3. Expensive 4. Foul smell A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
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Objective Question

5	973005	A research proposal will not have the following: 1. Objectives 2. Methodology 3. Synopsis 4. Problem Statement A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
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Objective Question

6	973006	If a department wants their students to be trained on a specific software for research, then they must organize a : 1. Conference 2. Workshop 3. Seminar 4. Webinar A1 : 1 A2 : 2	4.0	0.00
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		A3 : 3		
		A4 : 4		
Objective Question				
7	973007	The acronym "IPR" stands for : 1. Intensive paper research 2. Indian patent rights 3. Intellectual property rights 4. Intellectual patent rights A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
Objective Question				
8	973008	The "Fume hood" is used in chemical research laboratories to : 1. To keep the chemical safe 2. For the safety of radioactive chemicals 3. To keep the hazardous liquid chemicals 4. For removing hazardous chemical vapours and gases A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
Objective Question				
9	973009	Software used for plagiarism detection in a research paper / thesis is : 1. ORIGIN 2. UBUNTU 3. URKUND 4. QUICK HEAL A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
Objective Question				

10	973010	Patent is a : 1. Negotiable property 2. Real property 3. Non-transferable property 4. Transferable property A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
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Objective Question

11	973011	The first step of a research proposal is : 1. Getting research funds 2. Developing methodology 3. Identifying a research problem 4. Compiling objectives A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
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Objective Question

12	973012	Which of the following is not a research perspective ? 1. Source of getting funds 2. Application of the research study 3. objectives in understanding the research 4. Inquiry mode employed A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
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Objective Question

13	973013		4.0	0.00
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		Granting a patent on the basis of its specificity of place, comes under : 1. Trademark 2. Geographical Indication 3. Copyright 4. Historical indication A1 : 1 A2 : 2 A3 : 3 A4 : 4		
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Objective Question

14	973014	Which of the following hypothesis is usually tested to reject with an assumption that it is true ? 1. Research hypothesis 2. Statistical hypothesis 3. Null hypothesis 4. Alternate hypothesis A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
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Objective Question

15	973015	Which of the following search engines / Databases are used for the search of research articles by the scientists : A. Pubmed B. Scopus C. Science Direct D. Origin 1. A, C and D 2. A, B and C 3. A, B and D 4. B, C and D A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
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Objective Question

16	973016	Fire extinguisher is an essential equipment in the chemistry laboratory which contains 1. pure nitrogen gas 2. pure carbon dioxide 3. pure ammonia gas 4. pure sulphur gas A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
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Objective Question

17	973017	Authorship in a research paper must be based on the following : A. Manuscript writing B. Contributions in the idea and design C. Contributions in purchase of chemicals and equipments D. Data collection and analysis Choose the most appropriate answer from the options given below: 1. A, B and D Only 2. B, C and D Only 3. A, B and C Only 4. A, C and D Only A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
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Objective Question

18	973018	Authors must acknowledge in their published paper: 1. only research funding. 2. only instruments facility. 3. research funding, library and instruments facility 4. only library facility. A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
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Objective Question

19	973019	The first step after receiving a new chemical in research laboratory is : 1. Keeping it safe in fume hood 2. Reading label and MSDS 3. Dissolve it in a solvent 4. Take a UV or FTIR Spectra A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
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Objective Question

20	973020	If a chemical is specified in its label as "Corrosive", it means that : 1. It is radioactive 2. It will be flammable 3. It is hazardous chemical for eyes 4. It is highly reactive chemical, which may cause damage to living tissue A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
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Objective Question

21	973021	A teratogen like ethanol or mercury compounds usually affect : 1. Eyes 2. Skin 3. Foetus 4. Hair A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
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Objective Question

22	973022		4.0	0.00
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		Intellectual property rights are: 1. intangible in nature 2. exclusive and time limited 3. intangible in nature, exclusive and time limited 4. intangible in nature, exclusive. A1 : 1 A2 : 2 A3 : 3 A4 : 4		
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Objective Question

23	973023	Consistency of a data is determined by : 1. Standard deviation 2. Mean 3. Median 4. Mode A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
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Objective Question

24	973024	A "Synopsis" usually is a summary of : 1. Methods used during research 2. References used during research 3. Work done during research 4. Materials used during research A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
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Objective Question

25	973025		4.0	0.00
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Match List I with List II

LIST I		LIST II	
A.	Cryogen	I.	Uranium
B.	Flammable	II.	Liquid Nitrogen
C.	Radioactive	III.	Benzene
D.	Carcinogen	IV.	Liquified petroleum gas

Choose the correct answer from the options given below:

1. A-II, B-IV, C-I, D-III
2. A-I, B-II, C-III, D-IV
3. A-I, B-III, C-II, D-IV
4. A-IV, B-III, C-II, D-I

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

26 973026

Match List I with List II

LIST I		LIST II	
A.	Correlational research	I.	Involves comparing two groups on one outcome measure to test some hypothesis regarding causation.
B.	Descriptive research	II.	Involves studies that make use of statistical analyses to obtain their findings
C.	Experimental research	III.	Provides information regarding the average member of a group
D.	Quantitative research	IV.	the goal is to determine whether two or more variables are related.

Choose the correct answer from the options given below:

1. A-I, B-IV, C-II, D-III
2. A-IV, B-III, C-II, D-I
3. A-IV, B-III, C-I, D-II
4. A-I, B-II, C-III, D-IV

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

27 973027

What are the three general goals of scientific research?

- A. Description
- B. Understanding/explaining
- C. Prediction
- D. Record keeping

Choose the most appropriate answer from the options given below:

- 1. A, B and C Only
- 2. B, C and D Only
- 3. A, C and D Only
- 4. A, B and D Only

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

28	973028	Which of the following are used as a criteria of Good research problems: A. the research problem should take the form of a question. B. the research problem should not use maximum techniques. C. the research problem should describe the relationship between two or more variables. D. the research problem should be very fancy. Choose the most appropriate answer from the options given below: 1. B, and D Only 2. B, and C Only 3. A, and C Only 4. A, and D Only A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
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Objective Question

29	973029	In clinical research: 1. participants should be free from coercion (i. e. outside pressure) 2. participants should comprehend the risks 3. Participants should comprehend benefits 4. participants should be free from coercion, well inform about risk, and benefits A1 : 1 A2 : 2	4.0	0.00
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		A3 : 3		
		A4 : 4		
Objective Question				
30	973030	A folklore art can be : 1. Patented 2. Copyrighted 3. Given trademark 4. subscribed A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
Objective Question				
31	973031	Statement I : Bibliography in an important part of research articles because it provides research papers quoting all the relevant references from the same topic of research paper Statement II : Bibliography is an important part of research article where a research paper is given to quote all the new references from the different topics of research paper In the light of above statements, choose the <i>correct</i> answer from the options given below 1. new references from the different objectives of research paper 2. new unrelated topic references from various journals 3. all the relevant references from the same topics of research paper 4. old and new references from various different topics A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
Objective Question				
32	973032	Which one of the following is not a qualitative research tool : 1. Focus group 2. Interviewing 3. Observation 4. Experimentation A1 : 1 A2 : 2 A3 : 3	4.0	0.00

		A4 : 4		
Objective Question				
33	973033	Hypotheses are specific : 1. Observations about what will happen according to the theory 2. Predictions about what will happen according to the theory 3. Data collection about what will happen according to the theory 4. Reports about what will happen according to the theory A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
Objective Question				
34	973034	Copying someone's work without quotes and acknowledgment, providing wrong or incomplete citations, or submitting other people's work as one's own are defined as examples of: 1. Research bias 2. Bibliography 3. Academic integrity 4. Plagiarism A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
Objective Question				
35	973035	For working on radioactive chemicals, research group needs to take approval from: 1. Academic committee 2. Ethical committee 3. Purchase committee 4. Infrastructure committee A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
Objective Question				

36	973036	A source written by an author who describes somebody else's work is known as: 1. Primary source 2. Secondary source 3. Tertiary source 4. Quaternary source A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
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Objective Question

37	973037	The acronym "PPE" refers to: 1. Personal protection equipment 2. Primary protection equipment 3. Professional protection equipment 4. Patentable protection equipment A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
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Objective Question

38	973038	A literature review in a research article generally includes : 1. a discussion of research that is important but that has not yet been published. 2. a listing of others' research objectives. 3. a discussion of what has been written by more popular authors. 4. the work already published by other researchers in the similar area. A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
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Objective Question

39	973039		4.0	0.00
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		In a conceptual replication, the researcher works the same basic question, but does it from a : 1. same approach 2. casual approach 3. different approach 4. significant approach A1 : 1 A2 : 2 A3 : 3 A4 : 4		
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Objective Question

40	973040	Which of the following are usually the common form of work published in research journals ? A. Summary and Synopsis B. Review articles C. Short communications D. Research papers Choose the most appropriate answer from the options given below: 1. B, C and D Only 2. A, B and D Only 3. A, B and C Only 4. A, C and D Only A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
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Objective Question

41	973041	Expert scientists evaluate any new submitted work for validating high-quality research results for publication through a process called as: 1. the experimental review 2. conceptual review 3. the literature review 4. peer review A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
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Objective Question				
42	973042	Research that attempts to address practical questions rather than theoretical questions is called as: 1. Applied research 2. Basic research 3. Correlational research 4. Action research A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00

Objective Question				
43	973043	When a researcher study a single person or a few people in great depth for knowing a lot of things about them, the work is called as : 1. Correlational Study 2. Observational Research 3. Longitudinal Research 4. Case Study A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00

Objective Question				
44	973044	A subset of the population that is studied in a research project is termed as: 1. Population 2. Representative sample 3. Sample 4. Focus group A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00

Objective Question				
45	973045		4.0	0.00

		Which should be given the priority while submitting a research paper for publication ? 1. Editor of Journal 2. Scope of Journal 3. Publishing country 4. Publisher of Journal A1 : 1 A2 : 2 A3 : 3 A4 : 4		
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Objective Question

46	973046	A Research manuscript usually has the following sub-headings: A. Abstract and Introduction B. Methodology C. Bibliography D. Result and discussion Choose the most appropriate answer from the options given below: 1. A and B Only 2. B, C and D Only 3. A, B, C and D. 4. A, B and D Only A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
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Objective Question

47	973047	The most frequently occurring score in a distribution is called as : 1. Ratio 2. Median 3. Mode 4. Range A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
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Objective Question

48	973048	The group in an experiment that receives either no treatment or a standard treatment with which new treatments are compared is called as: 1. Placebo group 2. Control group 3. Experimental group 4. Focus group A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
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Objective Question

49	973049	If a research group is able to synthesize a new chemical through a novel synthetic approach, they should try to: 1. Publish a paper 2. Apply for patent 3. Write a review 4. Write an internet blog A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
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Objective Question

50	973050	When a researcher designs a specific experiment, he hypothesize to get certain results. After data collection, researcher tries to get the same results through data analysis, without proper reasoning, this is called as: 1. Personal Bias 2. Researcher Bias 3. Ethical Bias 4. Experimental Bias A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
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Objective Question

51	973051		4.0	0.00
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The electrons, identified by the quantum numbers n and l as

- I. $n = 4, l = 1$
- II. $n = 4, l = 0$
- III. $n = 3, l = 2$
- IV. $n = 3, l = 1$

On placing them in order of their increasing energy, from lowest to highest, the correct order is

- 1. $IV < II < III < I$
- 2. $II < IV < I < III$
- 3. $I < III < II < IV$
- 4. $III < I < IV < II$

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

52	973052	For a linear triatomic gas, the value of ratio of $C_{p,m}$ and $C_{v,m}$ is	4.0	0.00
		1. $\frac{5}{3}$ 2. $\frac{7}{5}$ 3. $\frac{9}{7}$ 4. $\frac{15}{13}$		
		A1 : 1		
		A2 : 2		
		A3 : 3		
		A4 : 4		

Objective Question

53	973053	The gaseous reaction $A(g) \rightarrow 2B(g) + C(g)$ Is found to follow first order with respect to A. If the reaction is started with $p_A = 90$ mmHg, the pressure after 10 minutes is found to be 180 mmHg. The rate constant the reaction is ($\log 2 = 0.3010$) 1. $1.15 \times 10^{-3} \text{ s}^{-1}$ 2. $2.30 \times 10^{-3} \text{ s}^{-1}$ 3. $3.45 \times 10^{-3} \text{ s}^{-1}$ 4. $4.60 \times 10^{-3} \text{ s}^{-1}$	4.0	0.00
		A1 : 1		
		A2 : 2		

		A3 : 3		
		A4 : 4		

Objective Question

54	973054	Assuming the ionic character in H-Br bond is 12%, the fraction of the contribution of ionic character to the valence bond wave function is 1. 0.67 2. 0.50 3. 0.99 4. 0.37 A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
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Objective Question

55	973055	Which of the following nuclei do not show nuclear magnetic resonance 1. ^1H 2. ^{32}S 3. ^{14}C 4. ^{13}C A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
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Objective Question

56	973056	Which of the following relation is not correct 1. $dU = TdS + PdV$ 2. $dH = TdS + VdP$ 3. $dA = -SdT - PdV$ 4. $dG = -SdT + VdP$ A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
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Objective Question

57	973057	In the conductometric titration of silver nitrate against potassium chloride, which of the following statement is correct 1. The conductance remains more or less constant till the end point 2. The conductance increases till the end point 3. The conductance decreases till the end point and start increases after the end point 4. The conductance increases till the end point and start decreases after the end point. A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
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Objective Question

58	973058	The ionic strength of a solution which is 0.1 molal in KCl and 0.2 molal in K_2SO_4 is 1. 0.15 2. 0.78 3. 0.70 4. 0.6 A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
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Objective Question

59	973059	For the reaction $N_2(g) + 3H_2(g) \rightarrow 2NH_3(g), \Delta H = -ve$ The formation of Ammonia is favored by 1. High pressure and low temperature 2. Low pressure and high temperature 3. Low pressure and Low Temperature 4. High pressure and high temperature A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
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Objective Question

60	973060		4.0	0.00
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Match List I with List II

LIST I		LIST II	
Phenomenological law		Flux	
A.	Fourier's law	I.	$J_M = -\mu \frac{du}{dx}$
B.	Fick's law	II.	$J_M = -D \frac{dc}{dx}$
C.	Newton's law	III.	$J_Q = -k \frac{dT}{dx}$
D.	Ohm's law	IV.	$J_e = -\lambda \frac{dE}{dx}$

Choose the correct answer from the options given below:

- (A) - (I), (B) - (II), (C) - (III), (D) - (IV)
- (A) - (III), (B) - (II), (C) - (I), (D) - (IV)
- (A) - (IV), (B) - (III), (C) - (II), (D) - (I)
- (A) - (III), (B) - (IV), (C) - (II), (D) - (I)

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

61	973061	The unit of magnetic moment of a proton is s^{-1} - J s $J T^{-1}$ - T A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
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Objective Question

62	973062	The retina of human eye can detect light when radian energy incident on it is at least $4 \times 10^{-17} J$. For light of wavelength 610nm, this energy corresponds to 1.23×10^2 photons 2.01×10^{16} photons 2.01×10^{18} photons 1.22×10^4 photons A1 : 1	4.0	0.00
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		A2 : 2		
		A3 : 3		
		A4 : 4		

Objective Question

63	973063	The $\text{NH}_4\text{Cl}_{(s)}$, $\text{NH}_3_{(g)}$, $\text{HCl}_{(g)}$ is a _____ component system, where the partial pressure of NH_3 is not necessarily equal to the partial pressure of HCl - One - Two - Four - Three A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
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Objective Question

64	973064	An absorbing sample is irradiated with blue light of intensity of $1.5 \times 10^{-3} \text{ J}$ per second. If the solution absorb 80% of the light passing through it then the radiation energy absorbed in 20 minutes exposure will be 1.44 J 14.15 J 0.0015 J 2.88 J A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
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Objective Question

65	973065	which of the following statement is not correct - The efficiency of a solid catalyst depends upon its surface area - Catalyst operates by providing alternate path for the reaction that involves a lower energy of activation - Catalyst lowers the energy of activation of the forward reaction without affecting the energy of activation of backward reaction. - Catalyst does not affect the overall enthalpy change of the reaction. A1 : 1 A2 : 2 A3 : 3	4.0	0.00
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A4 : 4

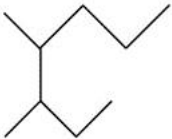
Objective Question

66	973066	Which of the following dimensions of a unit cell represent a hexagonal unit? 1. $a = b = c, \alpha = \beta = \gamma = 90^\circ$ 2. $a = b \neq c, \alpha = \beta = \gamma = 90^\circ$ 3. $a = b \neq c, \alpha = \beta = 90^\circ, \gamma = 120^\circ$ 4. $a \neq b \neq c, \alpha = \beta = \gamma \neq 90^\circ$ A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
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Objective Question

67	973067	Which of the following is not correct with reference to molar mass of polymers 1. $\overline{M}_w > \overline{M}_n$ 2. Polydispersity index = $\frac{\overline{M}_n}{\overline{M}_w}$ 3. Intrinsic viscosity = kM^a 4. $\lim_{c \rightarrow 0} \eta_{reduced} = kM^a$ A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
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Objective Question

68	973068	Provide an IUPAC name for the following alkane  1. 4,5-dimethylheptane 2. n-heptane 3. 3,4-dimethylheptane 4. 3,4-dimethylheptene A1 : 1 A2 : 2	4.0	0.00
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		A3 : 3		
		A4 : 4		
Objective Question				
69	973069	Glucose molecule reacts with X number of molecules of Phenylhydrazine to yield Osazone. The value of X is: - Three - Two - One - Four A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
Objective Question				
70	973070	The product of mixing an acyl halide and a sodium salt of carboxylic acid is: - An acid - An amide - Anhydride - An aldehyde A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
Objective Question				
71	973071	Alcoholic solution of KOH is a specific reagent for: - dehydration - dehydrogenation - dehydrohalogenation - dehalogenation A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
Objective Question				

72	973072	strongest nucleophile in polar-protic solvent is: 1. CH_3O^- 2. CH_3SH 3. $\text{CH}_3\text{-S}^-$ 4. CH_3OH A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
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Objective Question

73	973073	Carboxylic acids are a special case of hydrogen bonding because of their stable dimeric association, even in very dilute solution. In NMR carboxylic -OH appears between: 1. δ 10-13 2. δ 7-9 3. δ 6-9 4. δ 14-15 A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
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Objective Question

74	973074	How many signals would you expect to find in the ^{13}C NMR spectrum of Propyl Benzene. 1. 1 2. 3 3. 5 4. 7 A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
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Objective Question

75	973075		4.0	0.00
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		Spontaneous deamination of Cytosine converts it to: 1. Guanine 2. Uracil 3. Thymine 4. 5-methyl Cytosine A1 : 1 A2 : 2 A3 : 3 A4 : 4		
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Objective Question

76	973076	The reactivity of electrophilic aromatic substitution is enhanced with the group: 1. -CHO 2. -CN 3. -CH₃ 4. -NO₂ A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
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Objective Question

77	973077	An artificial sweetener other than Saccharin contains the following amino acids: 1. L-Glutamic Acid and L-Phenyl alanine 2. L-Glutamin acid and L-phenyl glycine 3. L-Aspartic acid and L-tyrosine 4. L-Aspartic acid and L-phenyl alanine A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
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Objective Question

78	973078		4.0	0.00
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		The correct order of basicity of methyl amines in gas phase: 1. $(\text{CH}_3\text{CH}_2)_3\text{N} > (\text{CH}_3\text{CH}_2)_2\text{NH} > \text{CH}_3\text{CH}_2\text{NH}_2 > \text{NH}_3$ 2. $\text{CH}_3\text{CH}_2\text{NH}_2 > (\text{CH}_3\text{CH}_2)_2\text{NH} > (\text{CH}_3\text{CH}_2)_3\text{N} > \text{NH}_3$ 3. $(\text{CH}_3\text{CH}_2)_3\text{N} > \text{CH}_3\text{CH}_2\text{NH}_2 > (\text{CH}_3\text{CH}_2)_2\text{NH} > \text{NH}_3$ 4. $\text{NH}_3 > \text{CH}_3\text{CH}_2\text{NH}_2 > (\text{CH}_3\text{CH}_2)_2\text{NH} > (\text{CH}_3\text{CH}_2)_3\text{N}$ A1 : 1 A2 : 2 A3 : 3 A4 : 4		
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Objective Question

79	973079	An organic compound A upon reacting with NH_3 gives B. On heating, B gives C. C in presence of KOH reacts with Br_2 to give $\text{CH}_3\text{CH}_2\text{NH}_2$. A is: 1. $\text{CH}_3\text{CH}_2\text{COOH}$ 2. CH_3COOH 3. $\text{CH}_3\text{CH}_2\text{CH}_2\text{COOH}$ 4. $\text{CH}_2=\text{CH}-\text{CH}_2-\text{COOH}$ A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
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Objective Question

80	973080	Increasing order of UV-absorption maxima of ethylene, butadiene, and naphthalene is: 1. butadiene < naphthalene < ethylene 2. ethylene < naphthalene < butadiene 3. ethylene < butadiene < naphthalene 4. naphthalene < butadiene < ethylene A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
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Objective Question

81	973081		4.0	0.00
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		Protonation of aniline causes a shift of UV-absorption from 280nm to 203nm due to the formation of anilinium ion. This shift in absorption of light is known as: 1. Bathochromic shift 2. Hypsochromic shift 3. Hypochromic shift 4. Hyperchromic shift A1 : 1 A2 : 2 A3 : 3 A4 : 4		
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Objective Question

82	973082	Aldehyde group shows IR absorption frequency in the range of: 1. 3300 cm^{-1} 2. $2880\text{-}2650\text{ cm}^{-1}$ 3. $3010\text{-}3100\text{ cm}^{-1}$ 4. $2960\text{-}2850\text{ cm}^{-1}$ A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
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Objective Question

83	973083	In Beckmann reaction migrating group is chiral. Select the true statement: 1. It will change its configuration while in the migration 2. It will retain its configuration while in the migration 3. It will change as well as it can retain its configuration while in the migration 4. There is nothing to do with the configuration A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
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Objective Question

84	973084		4.0	0.00
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		If a tripeptide is treated with Sanger's reagent followed by hydrolysis. How many amide bonds will be hydrolyzed in the peptide chain. - One - Two - Three - Four A1 : 1 A2 : 2 A3 : 3 A4 : 4		
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Objective Question

85	973085	Radioactive carbon in wood sample decays with a half-life of 5770 years. The rate constant (in year^{-1}) for the decay is, 0.6×10^{-4} per year 1.8×10^{-4} per year 1.2×10^{-4} per year 1.2×10^{-6} per year A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
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Objective Question

86	973086	Which is the oxide having the highest acidity? Mn_2O_3 MnO MnO_2 Mn_2O_7 A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
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Objective Question

87	973087		4.0	0.00
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		Which of the following statements is true regarding Wilson's disease? 1. The disease occurs due to excess accumulation of calcium. 2. The disease is due to the deficiency of vitamin C. 3. The disease arises due to the deficiency of iron. 4. The disease is due to the excess accumulation of copper. A1 : 1 A2 : 2 A3 : 3 A4 : 4		
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Objective Question

88	973088	The oxidation state of N is correctly represented in 1. $[\text{Co}(\text{NH}_3)_5\text{Cl}]\text{Cl}_2$, (-1) 2. NH_2OH, (-2) 3. $[\text{Os}(\text{NH}_3)_5\text{N}]^{2+}$, (-3) 4. Ca_3N_2, (+1) A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
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Objective Question

89	973089	The +1 oxidation state is more stable for the halides of 1. Al 2. Tl 3. Ge 4. Zn A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
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Objective Question

90	973090		4.0	0.00
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		The Jahn-Teller distortion effect in an octahedral complex result in 1. both axial and equatorial elongation 2. only axial elongation and equatorial compression 3. both axial and equatorial compression 4. either axial elongation and equatorial compression or axial compression and equatorial elongation A1 : 1 A2 : 2 A3 : 3 A4 : 4		
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Objective Question

91	973091	The structure of OIF₅ based on the VSEPR theory is 1. C_{4v} 2. D_{3h} 3. C_{2v} 4. C_{3v} A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
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Objective Question

92	973092	The spin only formula is useful to calculate the magnetic moments of these set of lanthanide ions, 1. Lu³⁺, Gd³⁺ 2. Sm²⁺, Yb³⁺ 3. Ho³⁺, Dy³⁺ 4. Tb³⁺, Gd³⁺ A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
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Objective Question

93	973093		4.0	0.00
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		The correct decreasing order of the number of lone pair of electrons for the square pyramidal molecules, SF_4, ClF_3, I_3^-, PCl_5 1. $\text{ClF}_3 > \text{SF}_4 > \text{PCl}_5 > \text{I}_3^-$ 2. $\text{ClF}_3 > \text{PCl}_5 > \text{I}_3^- > \text{SF}_4$ 3. $\text{SF}_4 > \text{I}_3^- > \text{ClF}_3 > \text{PCl}_5$ 4. $\text{I}_3^- > \text{ClF}_3 > \text{SF}_4 > \text{PCl}_5$ A1 : 1 A2 : 2 A3 : 3 A4 : 4		
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Objective Question

94	973094	Which of the following statements is correct regarding the chelate and macrocyclic effects exhibited by the metal complexes? 1. These effects do not occur with polydentate ligands. 2. The chelate effect is mostly based on enthalpy effect. 3. The macrocyclic effect has both entropy and enthalpy effects. 4. The crown ethers give complexes with metal ions having less stability. A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
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Objective Question

95	973095	Which of the complexes, (a) $[\text{Cr}(\text{edta})]^-$, (b) $[\text{Ru}(\text{en})_3]^{2+}$, (c) $[\text{Pt}(\text{dien})\text{Cl}]^+$, (d) $[\text{Mn}(\text{acac})_3]$ are chiral? (edta = Ethylene diamine tetraacetic acid; en = ethylene diamine; acac = acetylacetone) 1. $[\text{Cr}(\text{edta})]^-$, $[\text{Ru}(\text{en})_3]^{2+}$ 2. $[\text{Pt}(\text{dien})\text{Cl}]^+$, $[\text{Mn}(\text{acac})_3]$ 3. $[\text{Ru}(\text{en})_3]^{2+}$, $[\text{Mn}(\text{acac})_3]$ 4. $[\text{Pt}(\text{dien})\text{Cl}]^+$, $[\text{Ru}(\text{en})_3]^{2+}$ A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
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Objective Question

96	973096		4.0	0.00
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The IR spectra for XeF_4 showed two stretching bands around 1136 cm^{-1} and 580 cm^{-1} and showed a stretching band around 1105 cm^{-1} . The geometry of XeF_4 is

1. T_d
2. D_{4h}
3. C_{4v}
4. D_{4h}

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

97	973097	The Mossbauer spectrum of $\text{K}_4\text{Fe}(\text{CN})_6 \cdot 3\text{H}_2\text{O}$ shows 1. quadrupolar splitting 2. single peak with an isomer shift 3. magnetic hyperfine splitting 4. both quadrupolar splitting and magnetic hyperfine splitting A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
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Objective Question

98

973098

Match List I with List II

4.0

0.00

LIST I		LIST II	
Metalloproteins		Functions	
A.	Oxyhemocyanin	I.	hydrolysis of C-terminal peptide bond
B.	Pepsin	II.	oxygen transport
C.	Insulin	III.	Hydrolysis of protein into smaller peptides
D.	Carboxypeptidase A	IV.	Beta cells

Choose the correct answer from the options given below:

1. (A) - (II), (B) - (III), (C) - (IV), (D) - (I)
2. (A) - (III), (B) - (I), (C) - (II), (D) - (IV)
3. (A) - (II), (B) - (I), (C) - (III), (D) - (IV)
4. (A) - (IV), (B) - (III), (C) - (I), (D) - (II)

A1 : 1

A2 : 2

		A3 : 3		
		A4 : 4		

Objective Question

99	973099	The complex that absorbs the shortest wavelength is 1. $[\text{CoF}_6]^{3-}$ 2. $[\text{Co}(\text{OH}_2)_6]^{3+}$ 3. $[\text{Co}(\text{NH}_3)_6]^{3+}$ 4. $[\text{Co}(\text{ox})_3]^{3-}$ (ox = oxalate) A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
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Objective Question

100	973100	Which is the element capable of undergoing comproportionation reaction 1. Cu 2. Ru 3. Ag 4. Bi A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
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