

PREVIEW QUESTION BANK

Module Name : SCPH11 Envir Stdy - Envir Sci Research Area III and IV - 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	977001	Which of the following penalties will be considered to be imposed by Institutional Academic Integrity Panel (IAIP) on the teacher/faculty memebr in case of plagiarism of similarities between 40% to 60% in academic and research publications? 1. Shall not allowed to be a supervisor to any new Master's, M.Phil, Ph.D. student/scholar for a period of one year. 2. Shall not allowed to be a supervisor to any new Master's, M.Phil, Ph.D. student/scholar for a period of two years. 3. Shall not allowed to be a supervisor to any new Master's, M.Phil, Ph.D. student/scholar for a period of three years. 4. Shall not allowed to be a supervisor to any new Master's, M.Phil, Ph.D. student/scholar. A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
Objective Question				
2	977002	Which is the best definition of "Common Knowledge" as per the UGC (Promotion of Academic Integrity and Prevention of Plagiarism in Higher Educational Institutions) Regulations, 2018? 1. A phenomenon which underwrites much of social life 2. It means a well-known fact, quote or information that is known to most of the people. 3. It encompasses information that the average educated reader would accept as true without needing the extra validation of a source 4. Information that the average educated reader would accept as reliable without having to look it up. A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
Objective Question				
3	977003	The measure of the average number of citations received in a particular year by papers published in the journal during the two preceding years refers to 1. CiteScore (CS) 2. Impact Factor (IF) 3. Journal Citation Reports (JCR) 4. Scientific Journal Rating (SJR)	4.0	0.00

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

Objective Question

4	977004	The following reference, as listed in one of the publication, is of an_____. Brown, C.G. (2020). Ethical and legal consideration for using mind-body interventions in schools. In <i>Promoting mind-body health in schools: Interventions for mental health professional</i>. (pp. 113-128). American Psychological Association. 1. Academic journal article 2. e-Version of a print book 3. Individual print book chapter 4. online authored report, non-governmental organization A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
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Objective Question

5	977005	Which one of the following research proposal/thesis components have the least likelihood of plagiarism? 1. Research Conclusion 2. Research Datasets 3. Research Findings 4. Research methods A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
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Objective Question

6	977006	Which of the following will not meet the criteria of authorship? - A person making substantial contribution to 1. Drafting manuscript 2. Editing manuscript 3. Proofreading manuscript 4. Revising manuscript A1 : 1	4.0	0.00
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A2 : 2

A3 : 3

A4 : 4

Objective Question

7 977007

Match List I with List II

4.0

0.00

LIST I		LIST II	
A.	Frankness	I.	Should not try to deceive colleagues, funding agencies, public and not even their heart.
B.	Honesty	II.	Should never give false promise and come up with silly excuses when all others are trying hard for his/her success.
C.	Integrity	III.	Should give proper acknowledgement or credit for all contributors to their research; never plagiarize
D.	Respect for intellectual property	IV.	should have mind to share data, results, ideas tools and resources.

Choose the correct answer from the options given below:

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

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

8 977008

For the research scholars and academicians, which of the following options stand to be TRUE.

4.0

0.00

- A. For the research and academic community open access and public domain are the same.
- B. A situation that challenges research integrity and is not obviously right or wrong is known as a dilemma.
- C. Helping the research lab-mate in setting experimental design and project with his or her task is considered cheating.
- D. A test is valid if it measures what it sets out to measure.

Choose the most appropriate answer from the options given below:

1. A and C only
2. B and D only
3. A, B and C only
4. B, C and D only

A1 : 1

A2 : 2

A3 : 3

		A4 : 4		
Objective Question				
9	977009	Which of the following are the best paraphrasing tools? A. Quetext B. QuillBot C. SpinBot D. Wordtune E. Turnitin 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, C and E only A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
Objective Question				
10	977010	Which of the following are the best plagiarism checker software? A. Copyleaks B. Paraphrase C. Copyscape D. Pre Post SEO E. Unicheck Choose the most appropriate answer from the options given below: 1. A, C and E only 2. B, D and E only 3. A, B and D only 4. C, D and E only A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
Objective Question				
11	977011		4.0	0.00

Claims about results need to be made on complete data sets (as is normally assumed). The situation/act, where claims are made based on incomplete or assumed results, is referred to as _____.

1. Falsification
2. Cheating
3. Fabrication
4. Sabotage

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

12	977012	A research intends to explore the result of possible factors for the success/failure of plantations carried out by non-government organization. Which of the following research methods will be most appropriate for this study? 1. Descriptive survey methods 2. Experimental methods 3. Ex-post factor method 4. Historical method A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
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Objective Question

13	977013	Match List I with List II	4.0	0.00																				
<table><tr><th colspan="2">LIST I</th><th colspan="2">LIST II</th></tr><tr><td>A.</td><td>Deductive</td><td>I.</td><td>An approach to use more than one methods or sources of data in the study so that findings may be cross-checked.</td></tr><tr><td>B.</td><td>Ecological fallacy</td><td>II.</td><td>An approach of relationship between theory and research in which the former is generated out of the latter.</td></tr><tr><td>C.</td><td>Inductive</td><td>III.</td><td>An approach in which error is assumption that inferences about individuals can be made from findings relating to aggregate data.</td></tr><tr><td>D.</td><td>Triangulation</td><td>IV.</td><td>An approach to the relationship between theory and research in which the latter is conducted with reference to hypothesis and ideas inferred from the former.</td></tr></table>					LIST I		LIST II		A.	Deductive	I.	An approach to use more than one methods or sources of data in the study so that findings may be cross-checked.	B.	Ecological fallacy	II.	An approach of relationship between theory and research in which the former is generated out of the latter.	C.	Inductive	III.	An approach in which error is assumption that inferences about individuals can be made from findings relating to aggregate data.	D.	Triangulation	IV.	An approach to the relationship between theory and research in which the latter is conducted with reference to hypothesis and ideas inferred from the former.
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Choose the correct answer from the options given below:																								
1. A- II ,B- I, C-III, D-IV																								
2. A- I ,B- III,C-IV, D-II																								
3. A- IV,B- II,C-III, D-I																								
4. A- IV ,B- III,C-II, D-I																								

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

Objective Question

14	977014	Identify the correct order of steps involved in a scientific method after making initial observations: 1. Collect and Interpret data; Develop hypothesis; Design experiment; Draw conclusion. 2. Develop hypothesis; Design experiment; Collect and Interpret data; Draw conclusion. 3. Design experiment; Collect and Interpret data; Develop hypothesis; Draw conclusion. 4. Draw conclusion; Develop hypothesis; Design experiment; Collect and Interpret data. A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
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Objective Question

15	977015	Arrange the following to demonstrate the steps followed in basic correlation of a real-life data collection to scientific methods. A. Generalization future research B. Hypothesis, prediction, operationalization C. Implications possible bias/errors D. Test hypothesis description E. Test or observe in specific situation Choose the correct answer from the options given below: 1. C, D, E, B, A 2. D, E, C, B, A 3. A, B, E, D, C 4. B, E, D, C, A A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
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Objective Question

16	977016		4.0	0.00
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		The mean age of a combined group of men and women is 50 years. If the mean age of the group of men is 49 years and that of women is 53 years, the percentage of women in the group is 1. 20% 2. 25% 3. 30% 4. 75% A1 : 1 A2 : 2 A3 : 3 A4 : 4		
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Objective Question

17	977017	Which of the following plots DOES NOT provide information about the frequency distribution ? 1. Bar chart 2. Histogram 3. Less than ogive 4. More than ogive A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
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Objective Question

18	977018	Students take an objective type test with multiple options. One mark is awarded for each correct response while 0.25 marks are deducted for each incorrect response. The marks scored by the students in this test belongs to which of the following categories of variables? 1. Nominal 2. Ordinal 3. Discrete 4. Continuous A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
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Objective Question

19	977019		4.0	0.00
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		If we take the sum of the squares of the deviations of individual observations from the arithmetic mean and divide the sum by the total number of observations, we get 1. Standard deviation 2. Covariance 3. Mean deviation 4. Variance A1 : 1 A2 : 2 A3 : 3 A4 : 4		
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Objective Question

20	977020	The mean and standard deviation of a symmetrical bell shaped distribution are M and S respectively. Approximately what percent of the data values would lie within the interval from M-S to M ? 1. 34% 2. 68% 3. 47.5% 4. 95% A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
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Objective Question

21	977021	Karl Pearson's coefficient of correlation is computed between the heights and weights of 30 students. Which of the following options appropriately represents the expected outcome of the computation? 1. No correlation 2. Positive correlation 3. Negative correlation 4. Perfect correlation A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
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Objective Question

22	977022		4.0	0.00
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		For a regression model, the total sum of squares is equal to 240 while the error sum of squares is equal to 60. The coefficient of determination for the model is equal to 1. 0.25 2. 0.6 3. 0.75 4. 0.8 A1 : 1 A2 : 2 A3 : 3 A4 : 4		
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Objective Question

23	977023	A researcher wants to test the effectiveness of a drug in reducing the blood sugar levels among 20 subjects. For this purpose, he would employ which of the following tests? 1. Chi Square test 2. F-test 3. Paired t-test 4. Z test for single mean A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
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Objective Question

24	977024	Identify the correct statements: A. Sample mean is an unbiased estimate of the population mean. B. The variance is independent of the change of origin. C. Standard deviation is more than the range. D. Arithmetic mean is independent of the change in scale. Choose the most appropriate answer from the options given below: 1. A and B only 2. B and C only 3. A, C and D only 4. B, C and D only A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
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Objective Question				
25	977025	The null hypothesis will be rejected at 5% level of significance for which of the following p-values of a test statistic ? A. 0.09 B. 0.8% C. 0.006 D. 7.5% Choose the most appropriate answer from the options given below: 1. A and B only 2. B and C only 3. C and D only 4. A and D only A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00

Objective Question				
26	977026	Identify the correct statements A. Fifth decile in a dataset would equal the median. B. Covariance between two variables always lies between -1 and +1. C. Standard deviation can both be positive or negative. D. The mean value of a standard normal variate is equal to zero. Choose the most appropriate answer from the options given below: 1. A and B only 2. A, B and C only 3. B, C and D only 4. A and D only A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00

Objective Question				
27	977027		4.0	0.00

		Arrange the following partition values of a large dataset in increasing order. A. 80th percentile B. 1st quartile C. median D. 6th decile Choose the correct answer from the options given below: 1. A, B, C, D 2. B, C, D, A 3. C, D, B, A 4. A, D, B, C A1 : 1 A2 : 2 A3 : 3 A4 : 4		
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Objective Question

28	977028	For a negatively skewed distribution, arrange the following in decreasing order. A. Mean B. Median C. Mode Choose the correct answer from the options given below: 1. C, B, A 2. A, B, C 3. B, C, A 4. B, A, C A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
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Objective Question

29	977029		4.0	0.00
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Match List I with List II

LIST I Type of Variable		LIST II Example	
A.	Nominal	I.	Temperature on Celcius Scale
B.	Ordinal	II.	Building height
C.	Interval	III.	Complexion
D.	Ratio	IV.	Gender

Choose the correct answer from the options given below:

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

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

30 977030

Match List I with List II

LIST I		LIST II	
A.	Box Plot	I.	Altitude
B.	Scatter Plot	II.	Median
C.	Contours	III.	Frequency
D.	Histogram	IV.	Correlation

Choose the correct answer from the options given below:

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

A1 : 1

A2 : 2

A3 : 3

A4 : 4

4.0

0.00

Objective Question

31 977031

Determination of organic compounds in environmental samples require extraction from the sample matrix prior to their measurement. Which of the following solvents is not suitable for extraction of natural lipids such as triglycerides and non polar constituents like organopesticides from the environmental sample?

1. Hexane
2. Cyclohexane
3. Dichloromethane
4. Dimethyl ether

4.0

0.00

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

32	977032	Which of the following analytical instruments works on the principle of Beer Lambert's Law? A. UV range spectrophotometer B. Visible range spectrophotometer C. Flame Photometer D. Atomic Absorption spectrophotometer E. Inductively coupled Plasma Atomic emission spectrometer Choose the most appropriate answer from the options given below: 1. A, B and C only 2. B, C and D only 3. A, B, D and E only 4. A, B and D only A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
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Objective Question

33	977033	Which of the following Chemicals are used as desiccating agent in laboratory to keep samples moisture free? A. CaCl_2 B. CaO C. CaSO_4 D. NaOH E. Silica Gel Choose the most appropriate answer from the options given below: 1. A, C and D only 2. A, C and E only 3. A, C, D and E only 4. A, B, C and E only A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
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Objective Question

34	977034	Pyrex or Kimax grade glass is used in pipettes and other high precision glass ware due to its 1. Low refractive Index 2. low coefficient of expansion and high transparency 3. Low solubility and low coefficient of expansion 4. Low solubility and high transparency A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
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Objective Question

35

977035

Match List I with List II

LIST I (Number)		LIST II	
A.	0.216	I.	Three significant figures
B.	800.0	II.	Four significant figures
C.	9.3660×10^5	III.	Five significant figures
D.	936,600	IV.	Six significant figures

Choose the correct answer from the options given below:

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

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

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

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

A1 : 1

A2 : 2

A3 : 3

A4 : 4

4.0

0.00

Objective Question

36	977036	Which of the following correctly explain the calculation of limit of detection (LOD)? [s is the standard deviation of response and S is the slope or sensitivity of the calibration curve] 1. $LOD = (s/S)$ 2. $LOD = 3.3 (s/S)$ 3. $LOD = 9 (s/S)$ 4. $LOD = 10 (s/S)$ A1 : 1 A2 : 2 A3 : 3	4.0	0.00
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A4 : 4

Objective Question

37	977037	An analyst analyzed a standard solution multiple times for Cu concentration and reported concentrations as 74, 75, 80, 89, 90, 100 ppm. True value of Cu in standard solution was 80 ± 2 ppm Which of the following is true for the results? 1. Analysis is not accurate but have a good precision 2. Analysis is neither accurate nor precise 3. Analysis is accurate but not precise 4. analysis is both accurate and precise A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
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Objective Question

38	977038	You need to prepare 500 ml of a 0.100 M $K_2Cr_2O_7$ solution from a 0.250 M solution. What volume of the 0.250 M solution must be diluted to 500 ml? 1. 250 ml 2. 200 ml 3. 100 ml 4. 50 ml A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
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Objective Question

39	977039	Buffer solutions resist change in the pH. Which of the following is not true for buffer solutions? A. Buffer solution are always basic in nature B. Buffer solution are always acidic in nature C. Buffer solution can be acidic as well as basic in nature D. Buffer solution can be a mixture of weak acid and its conjugate base E. Buffer solution can be a mixture of weak base and its conjugate acid Choose the most appropriate answer from the options given below: 1. A, and E only 2. A and B only 3. B, D and E only 4. C, D and E only	4.0	0.00
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		A1 : 1		
		A2 : 2		
		A3 : 3		
		A4 : 4		

Objective Question

40	977040	Two garden plots having similar soil were planted for cotton. Each plot was watered with same amount of water but only one plot was given fertilizers. The cotton yield was measured from both plots and compared. The plot in which fertilizer was not applied can be referred as 1. Experimental plot 2. controlled variable 3. control plot 4. replicate or background plot A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
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Objective Question

41	977041	Which of the following device is used to measure the extent of light penetration in a lake? 1. Graduated pole 2. Nephelometer 3. Holling's disk 4. Sacchi disk A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
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Objective Question

42	977042		4.0	0.00
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Silica is generally present between 50-75% in surface soils and generates high dissolved load in the digested sample solution (TDS). High TDS interferes with the qualitative as well as quantitative analysis of other elements. Silica can be best and effectively removed by using

- A. Hydrofluoric acid
- B. Hydrochloric acid
- C. Boric acid
- D. Per Chloric acid

Choose the most appropriate answer from the options given below:

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

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

43	977043	In ion exchange Chromatography, which of the following are used as functional exchanger groups in cation exchanger resins? A. Sulfonic group B. Amine group C. Carboxylic acid D. Quaternary ammonium ion Choose the most appropriate answer from the options given below: 1. A only 2. A and C only 3. B and D only 4. A and B only A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
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Objective Question

44	977044		4.0	0.00
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		Which of the following are advantage of Tris or THAM buffer widely used in the clinical laboratory and in biochemical studies? A. It has pK close to physiological pH B. Its buffering capacity below pH 7.5 does begin to diminish C. It is highly soluble in physiological fluid but is non hygroscopic D. Primary aliphatic amine has considerable reactivity E. It does not appear to inhibit many enzyme systems Choose the most appropriate answer from the options given below: 1. A, C and D only 2. A, B, C and E only 3. A, C and E only 4. A, B, C and D only A1 : 1 A2 : 2 A3 : 3 A4 : 4		
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Objective Question

45	977045	The part of sample that is analyzed in the laboratory is referred to as 1. Gross sample 2. Laboratory sample 3. Analysis sample 4. Bulk sample A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
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Objective Question

46	977046	Choose the incorrect statements A. Indeterminate error cause data to be scattered in more or less systematic fashion around mean. B. Determinate errors have definite source that can be identified C. Instrumental, method and personal errors are part of determinate errors D. Failing to record results correctly or failing to mix a solution properly are likely to introduce indeterminate error. Choose the most appropriate answer from the options given below: 1. A only 2. C and D only 3. D only 4. B only A1 : 1	4.0	0.00
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A2 : 2

A3 : 3

A4 : 4

Objective Question

47	977047	Choose the correct statements about Judgemental sampling in environmental science A. Judgemental sampling is the rule rather than an exception B. Judgemental sampling relies heavily on the personal judgement of the researcher C. There is no way judgemental sampling can be verified except by checking random transects in the field for the quality of researchers judgement D. Judgemental sampling is limited only by size E. Judgemental sampling often form the basis of exploratory sampling Choose the most appropriate answer from the options given below: 1. B, C and D only 2. A, B, C and D only 3. A, B, C and E only 4. A, B, D and E only A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
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Objective Question

48	977048	Which of the following are used as flux for fusion or melting of soil or rock samples? A. Na_2CO_3 B. KOH C. Na_2O_2 D. NH_4I E. HF Choose the most appropriate answer from the options given below: 1. A and C only 2. A, B and C only 3. A, C and E only 4. A, B, C and D only A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
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Objective Question

49	977049		4.0	0.00
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		Arrange the following elements of image interpretation in order of methods of search. A. Location/Position B. Shadow/Slope C. Site/Situation D. Size/Shape E. Tone/Color Choose the correct answer from the options given below: 1. A, B, D, E, C 2. A, E, D, B, C 3. C, E, B, D, A 4. D, B, C, E, A A1 : 1 A2 : 2 A3 : 3 A4 : 4		
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Objective Question

50	977050	Arrange the following sensors of IRS series in increasing order of spatial resolution (meters) A. LISS I B. LISS II C. LISS III D. PAN E. WiFS Choose the correct answer from the options given below: 1. D, A, B, C, E 2. A, B, C, E, D 3. D, C, B, A, E 4. D, E, A, B, C A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
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Objective Question

51	977051		4.0	0.00
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Arrange the following metals in decreasing order of their electrical conductivity at 295 K.

- A. Iron
- B. Copper
- C. Silver
- D. Cobalt

Choose the correct answer from the options given below:

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

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

52	977052	Two electrons, one with velocity $0.8c$ and the other with velocity $0.7c$ are moving in the same direction as that of a photon. Neglecting electron-photon and electron-electron interactions, the relative velocities of the electron with respect to photon are _____. (C is the velocity of light) 1. $0.2c$ and $0.3c$, respectively 2. $-0.2c$ and $-0.3c$ respectively 3. $-c$ and $-c$ respectively 4. $+c$ and $-c$ respectively A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
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Objective Question

53	977053	Across a second order phase transition, the free energy is _____ 1. a continuous function of the temperature 2. a discontinuous function of the temperature 3. proportional to the temperature 4. proportional to the magnetic field A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
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Objective Question

54

977054

Match List I with List II

4.0

0.00

LIST I Element/compound		LIST II Property	
A.	Niobium	I.	Antiferromagnetic
B.	Nickel	II.	Ferromagnetic
C.	Barium Titanate	III.	Superconductor
D.	Cobalt Oxide	IV.	Ferromagnetic

Choose the correct answer from the options given below:

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

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

55	977055	The mathematical expression representing Heisenberg uncertainty principle is 1. $\Delta x \cdot \Delta p_x \leq h/4\pi$ 2. $\Delta E \cdot \Delta x \leq h/4\pi$ 3. $\Delta x \cdot \Delta p_x \geq h/4\pi$ 4. $\Delta E \cdot \Delta p_x \geq h/4\pi$ A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
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Objective Question

56	977056	The electrical resistivity of a semiconductor as function of temperature _____ 1. increases linearly with increase of temperature 2. decreases exponentially with increase of temperature 3. increases exponentially with increase of temperature 4. remain constant over a broad range of temperature A1 : 1 A2 : 2 A3 : 3	4.0	0.00
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A4 : 4

Objective Question

57	977057	Using Millikan Oil Drop Experiment, we can independently estimate A. Charge of electron. B. Charge/mass ratio of proton C. Charge of neutrons D. spin moment carried by electrons Choose the most appropriate answer from the options given below: 1. A and B only 2. A only 3. A, B and C only 4. D only A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
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Objective Question

58	977058	The number of fundamental vibrational modes of CO₂ molecule are _____ 1. Four : 1 is Raman active and 3 are IR active. 2. Four : 2 are Raman active and 2 are IR active. 3. Five : 2 are Raman active and 3 are IR active. 4. Four : all are IR active only A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
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Objective Question

59	977059	The average binding energy per nucleon for elemental nuclei obtains a maximum value for the atomic mass of _____ 1. 23 2. 56 3. 238 4. 1 A1 : 1 A2 : 2	4.0	0.00
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A3 : 3

A4 : 4

Objective Question

60	977060	For a particle moving in a central field, _____ 1. the kinetic energy is a constant of motion 2. the motion is confined in a plane 3. the potential energy is velocity dependent 4. the total energy is conserved A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
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Objective Question

61

977061

Match List I with List II

4.0

0.00

LIST I (Reaction)		LIST II (Constant)	
A.	$\text{HA} + \text{H}_2\text{O} \rightleftharpoons \text{H}_3\text{O}^+ + \text{A}^-$	I.	K_{eq} , equilibrium constant
B.	$\text{MA} \rightleftharpoons \text{M}^{n+} + \text{A}^{n-}$	II.	K_{a} , acidity constant
C.	$\text{A}_{\text{H}_2\text{O}} \rightleftharpoons \text{A}_{\text{org}}$	III.	K_{sp} , solubility constant
D.	$\text{A}_{\text{red}} + \text{B}_{\text{ox}} \rightleftharpoons \text{B}_{\text{red}} + \text{A}_{\text{ox}}$	IV.	K_{d} , distribution constant

Choose the correct answer from the options given below:

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

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

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

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

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

62	977062		4.0	0.00
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Which of the following metal carbonyls follow 18 electron rule?

- A. $\text{Co}(\text{CO})_8$
- B. $\text{Ni}(\text{CO})_4$
- C. $\text{V}(\text{CO})_6$
- D. $\text{W}(\text{CH}_3)_6$
- E. $\text{Mn}_2(\text{CO})_{10}$

Choose the most appropriate answer from the options given below:

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

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

63	977063	Arrange the following groups in decreasing order of their electron repelling (+I) effect A. COO^- B. $\text{C}_6\text{H}_5\text{O}^-$ C. R_3C D. CHR_2 E. CH_2R Choose the correct answer from the options given below: 1. E, D, C, A, B 2. B, A, E, D, C 3. B, A, C, D, E 4. A, B, E, D, C A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
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Objective Question

64	977064		4.0	0.00
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		Arrange the following molecular hydrides in increasing order of their boiling point A. PH_3 B. AsH_3 C. SbH_3 D. NH_3 Choose the correct answer from the options given below: 1. A, B, C, D 2. D, C, B, A 3. D, A, B, C 4. D, A, C, B A1 : 1 A2 : 2 A3 : 3 A4 : 4		
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Objective Question

65	977065	Magnetic properties of transition metal ions can be understood with the aid of crystal field theory. A material which retains a permanent magnetism when the magnetic field is removed, is best referred as 1. Paramagnetic 2. Ferromagnetic 3. Anti-ferromagnetic 4. Super magnetic A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
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Objective Question

66	977066	Choose the correct statements A. Starch is a polymer of α glucose B. Cellulose is polymer of β glucose C. Glycogen is a polymer of D-ribose D. Glycogen is the counterpart in animal tissues to the amylopectin in plants E. Amylopectin is long unbranched chain polymer Choose the most appropriate answer from the options given below: 1. A, B, C and D only 2. A, B, C and E only 3. A, B and C only 4. A, B and D only A1 : 1	4.0	0.00
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		A2 : 2		
		A3 : 3		
		A4 : 4		

Objective Question

67	977067	The heat capacity ration C_p/C_v (heat capacity at constant pressure/at constant volume) for diatomic molecules is 1. $5/2$ 2. $7/2$ 3. $5/3$ 4. $7/5$ A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
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Objective Question

68	977068	Which of the following molecules will not give any spectra or does not show any nuclear spin in nuclear magnetic resonance spectroscopy? 1. ^{14}N 2. ^2D 3. ^{32}S 4. ^{35}Cl A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
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Objective Question

69	977069		4.0	0.00
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Match List I with List II

LIST I (Crystal System)		LIST II (Unit Cell dimension and angles)	
A.	Monoclinic	I.	$a \neq b \neq c$ and $\alpha = \gamma = 90^\circ \neq \beta$
B.	Hexagonal	II.	$a \neq b \neq c$ and $\alpha \neq \beta \neq \gamma \neq 90^\circ$
C.	Triclinic	III.	$a = b \neq c$ and $\alpha = \beta = 90^\circ, \gamma = 120^\circ$
D.	Tetrahedral	IV.	$a = b \neq c$ and $\alpha = \beta = \gamma = 90^\circ$

Choose the correct answer from the options given below:

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

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

70 977070

Choose the correct statements

- A. Enantiomers have similar physical properties.
- B. Diastereomers, other than geometrical isomers, may or may not be optically active.
- C. Diastereomers have identical chemical properties
- D. Diastereomers can be separated from one another through fractional crystallisation and fractional distillation.
- E. Diastereomers have different physical properties such as densities, solubilities.

Choose the most appropriate answer from the options given below:

1. A, B, C, D and E
2. B, C, D and E only
3. A, B, D and E only
4. B, C and D only

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

71 977071

Granite is characterised by _____ contents.

- A. high Mg
- B. high Ca
- C. low Ca
- D. low Mg

Choose the most appropriate answer from the options given below:

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

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

72 977072

Match List I (feature) with List II (activity)

LIST I		LIST II	
A.	V shaped valley	I.	Glacial
B.	U shaped valley	II.	Soil
C.	Eluviation zone	III.	Aeolian
D.	Barchans	IV.	Riverine

Choose the correct answer from the options given below:

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

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

73 977073

		Arrange the following soil horizons from the surface towards the bedrock. A. Oa B. B C. Oi D. E E. Oe Choose the correct answer from the options given below: 1. A, C, B, D, E 2. A, D, B, C, E 3. C, E, A, D, B 4. C, E, A, B, D A1 : 1 A2 : 2 A3 : 3 A4 : 4		
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Objective Question

74	977074	Which of the following mass movements have slow nature of motion? A. Rockfall B. Slump C. Mud flow D. Earth creep E. Debris slide Choose the most appropriate answer from the options given below: 1. A and D only 2. B and C only 3. B and D only 4. D and E only A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
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Objective Question

75	977075	Under regional metamorphism, basalt gives rise to _____ 1. Granite 2. Amphibolite 3. Mica schist 4. Gabbro A1 : 1 A2 : 2	4.0	0.00
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		A3 : 3		
		A4 : 4		

Objective Question

76	977076	Which one of the following mineral has isolated silicate structure? 1. Garnet 2. Amphibole 3. Pyroxene 4. Quartz A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
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Objective Question

77	977077	First appearance of gastropods occurred in 1. Cambrian 2. Ordovician 3. Silurian 4. Devonian A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
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Objective Question

78	977078	Which one of the following forms basement of Dharwar Supergroup? 1. Khondalite 2. Peninsular Gneissic Complex 3. Banded Gneissic Complex 4. Older Metamorphic Group A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
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Objective Question				
79	977079	Which one of the following metal ore deposit is formed by crystal settling within cooling magma? 1. Copper deposit 2. Lithium deposit 3. Aluminum deposit 4. Chromium deposit A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00

Objective Question				
80	977080	At the _____ boundary, the P waves get refracted downward. 1. upper crust-lower crust 2. core-mantle 3. upper mantle-lower mantle 4. lithosphere-asthenosphere A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00

Objective Question				
81	977081	What does a steep slope in a rank-abundance plot of a community indicate? 1. greater dominance of rare species 2. greater dominance of common species 3. equal abundance of common and rare species 4. evenness in the community A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00

Objective Question				
82	977082		4.0	0.00

		Logistically growing population of medicinal plants can be harvested sustainably _____ 1. at half of the carrying capacity 2. at full carrying capacity 3. at double of the carrying capacity 4. and it can not determined by the carrying capacity A1 : 1 A2 : 2 A3 : 3 A4 : 4		
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Objective Question

83	977083	Arrange the following texture classes in the increasing order from fine to coarse. A. Silt loam B. Silty clay loam C. Loamy sand D. Loam Choose the correct answer from the options given below: 1. A, B, C, D 2. B, A, D, C 3. B, C, A, D 4. C, D, A, B A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
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Objective Question

84	977084	The fungus <i>Gilocladium roseum</i> that can produce hydrocarbons similar to those used in biofuels belongs to the fungal group: 1. Zygomycetes 2. Glomeromycetes 3. Ascomycetes 4. Basidiomycetes A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
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Objective Question

85	977085	Three of the lineages of angiosperms, informally called as basal angiosperms which diverged from other angiosperms early in the history of the group are A. Amborella B. Water lilies C. Star anise and relatives D. Magnoliids Choose the most appropriate answer from the options given below: 1. A, B, C only 2. B, C, D only 3. C, D, A only 4. A, B, D only A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
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Objective Question

86	977086	Match List I with List II	4.0	0.00																				
<table><tr><th colspan="2">LIST I Phyla</th><th colspan="2">LIST II Examples</th></tr><tr><td>A.</td><td>Cycadophyta</td><td>I.</td><td>Encephalartos</td></tr><tr><td>B.</td><td>Ginkgophyta</td><td>II.</td><td>Ginkgo</td></tr><tr><td>C.</td><td>Gnetophyta</td><td>III.</td><td>Ephedra</td></tr><tr><td>D.</td><td>Coniferophyta</td><td>IV.</td><td>Sequoia</td></tr></table>					LIST I Phyla		LIST II Examples		A.	Cycadophyta	I.	Encephalartos	B.	Ginkgophyta	II.	Ginkgo	C.	Gnetophyta	III.	Ephedra	D.	Coniferophyta	IV.	Sequoia
LIST I Phyla		LIST II Examples																						
A.	Cycadophyta	I.	Encephalartos																					
B.	Ginkgophyta	II.	Ginkgo																					
C.	Gnetophyta	III.	Ephedra																					
D.	Coniferophyta	IV.	Sequoia																					
Choose the correct answer from the options given below:																								
1. A-IV, B-III, C-II, D-I																								
2. A-III, B-II, C-IV, D-I																								
3. A-II, B-I, C-III, D-IV																								
4. A-I, B-II, C-III, D-IV																								
A1 : 1																								
A2 : 2																								
A3 : 3																								
A4 : 4																								

Objective Question

87	977087		4.0	0.00
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		Arrange the given stages in homosporous spore production occurring in most seedless vascular plants A. Bisexual gametophyte B. Egg or sperm C. Sporangium on sporophyll D. Single type of spore Choose the correct answer from the options given below: 1. C, D, A, B 2. A, B, C, D 3. D, C, B, A 4. B, A, D, C A1 : 1 A2 : 2 A3 : 3 A4 : 4		
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Objective Question

88	977088	One way to highlight the importance of climate on the distribution of biomes is to construct a climograph which is a plot of : 1. Precipitation frequency and time 2. Monthly mean temperature and insolation 3. Annual mean temperature and precipitation 4. Daily precipitation and insolation A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
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Objective Question

89	977089	Which of the following is dominant trait ? 1. Polydactyly 2. Albinism 3. Cystic fibrosis 4. Hemophilia A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
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Objective Question				
90	977090	Cystic fibrosis disease is caused by 1. Abnormal hemoglobin molecules 2. Failure of chloride ion transport mechanism 3. Defective blood clotting factor IX 4. Defective enzyme hexosaminidase A A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00

Objective Question				
91	977091	Smallest and most violent weather disturbance that occur on earth is _____ 1. Hurricanes 2. Cyclones 3. Typhoons 4. Tornadoes A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00

Objective Question				
92	977092	A parcel of air shoved upward into atmospheric air in a state of stability will expand and become cooler _____ 1. but not as cool as the surrounding air 2. and thus colder than the surrounding air 3. reaching the same temperature as the surrounding air 4. then warmer than the surrounding air A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00

Objective Question				
93	977093		4.0	0.00

Match List I with List II

LIST I		LIST II	
A.	Beta galactosidase	I.	Tay-Sach diseese
B.	hexosaminadidase	II.	Gaucher's disease
C.	Sphingomyelinase	III.	Generalised gangliosidosis
D.	Glucocerbrosidase	IV.	Niemann - Pick disease

Choose the correct answer from the options given below:

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

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

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

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

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

94 977094

Which of the following is a non-conservative element in oceans?

1. Na

2. K

3. S

4. N

A1 : 1

A2 : 2

A3 : 3

A4 : 4

4.0

0.00

Objective Question

95 977095

Match List I with List II

LIST I (Organism)		LIST II (Chromosomes)	
A.	Drosophila	I.	42
B.	Silkworm	II.	8
C.	Rat	III.	60
D.	Cow	IV.	56

Choose the correct answer from the options given below:

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

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

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

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

A1 : 1

4.0

0.00

		A2 : 2		
		A3 : 3		
		A4 : 4		

Objective Question

96	977096	Which of the following are correct statement? A. Not all proteins fold spontaneously as they synthesised in the cell. B. Folding for many protein requires chaprones. C. Several types of molecular chaprons are found in organisim ranging from bacteria to humans. D. Chapronins facilitate correct folding pathways. Choose the correct answer from the options given below: 1. A, B, C only correct 2. A, B and D only correct 3. A, B, C and D correct 4. A, C and D only correct A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
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Objective Question

97	977097	Whcih of the folloiwng is not cause for acidity in soils? 1. Fertlizers and Agricultural runoff 2. Dissolution of Pyrite 3. Dissolution of Dolomite 4. Leaching of Silica from Si based minerals A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
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Objective Question

98	977098		4.0	0.00
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		Which of the following are example of metalloids? A. Boron B. Aluminium C. Arsenic D. Antimony E. Silicon Choose the most appropriate answer from the options given below: 1. A, B and D only 2. A, C, D and E only 3. A, B, D and E only 4. B, D and E only A1 : 1 A2 : 2 A3 : 3 A4 : 4		
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Objective Question

99	977099	Which of the following are used as a disinfectant for water purification? A. UV radiation B. Ozone C. KCl D. NaOH E. NaOCl Choose the most appropriate answer from the options given below: 1. B, D and E only 2. B, C, D and E only 3. A, B and E only 4. A, B, D and E only A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
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Objective Question

100	977100	Which of the following is NOT correct? 1. Catalytic destruction of ozone in stratosphere over south pole of Antarctica is not uniform throughout the year? 2. Ozone protects us from harmful radiation by capturing UV A completely and UV B partially in stratosphere 3. Sunscreen lotions are applied to protect human skin from exposure to UVA and UVB radiations 4. UV B radiations in troposphere helps in production of atomic O which eventually forms ozone in troposphere	4.0	0.00
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		A1 : 1		
		A2 : 2		
		A3 : 3		
		A4 : 4		