

PREVIEW QUESTION BANK

Module Name : SCPH18 Microbiology - ENG
Exam Date : 31-Oct-2023 Batch : 14:30-17:30

Sr. No.	Client Question ID	Question Body and Alternatives	Marks	Negativ Marks
Objective Question				
1	984001	involves developing generalizations based on observation of a limited number of related events or experiences. 1. Questioning 2. Inductive Reasoning 3. Summerising 4. Deductive Reasoning A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
Objective Question				
2	984002	In which type of research, the research problems and methods tend to evolve as understanding of the research context and participant's deepens? 1. Action Research 2. Quantitative Research 3. Qualitative Research 4. Experimental Research A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
Objective Question				
3	984003	Which among the following is a quantitative approach? 1. Correlational research 2. Narrative Research 3. Ethnography 4. Case Study A1 : 1 A2 : 2 A3 : 3	4.0	0.00

		A4 : 4		
Objective Question				
4	984004	Which one of the following approaches has the key question "How do people make sense of their everyday activities in order to behave in socially accepted ways?" 1. Ethnography 2. Phenomenology 3. Historical research 4. Ethnomethodology A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
Objective Question				
5	984005	The research focused on solving practitioners' local problems is called: 1. Experimental research 2. Action research 3. Fundamental research 4. Orientational research A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
Objective Question				
6	984006	Which branch of philosophy is dealing with knowledge and its justification? 1. Ontology 2. Epistemology 3. Axiology 4. Rhetoric A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
Objective Question				

7	984007	Which among the following type of researches follow "dialectical pragmatism" paradigm? 1. Quantitative 2. Mixed-method 3. Qualitative 4. Exploratory A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
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Objective Question

8	984008	Which one of the following is classified as a true-experimental design? 1. One-Group Posttest-Only Design 2. One-Group Pretest-Posttest Design 3. Pretest-Posttest Control-Group Design 4. posttest-only Nonequivalent-group design A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
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Objective Question

9	984009	Which among the following are the characteristics of a good research topic? A. Topic is interesting. B. Topic is researchable. C. Topic is significant. D. Topic is ethical. E. Topic is wide in scope. Choose the most appropriate answer from the options given below: 1. A, B and D only 2. A, C and E only 3. B, C, D 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				
10	984010	Which among the following are true about a good hypothesis? A. It should be replicate the findings of previous researches. B. It should provide a reasonable explanation for the predicted outcome. C. It states as clearly and concisely the expected relation (or difference) between variables. D. A well-stated and well-defined hypothesis must also be testable. E. It should be based on assumptions and not on rationale. Choose the most appropriate answer from the options given below: 1. A, C and D only 2. B, C and E only 3. B, C and D only 4. A, D and E only A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00

Objective Question				
11	984011	Following example is of which type of the hypothesis? "There is no difference on Y (the outcome of the study) between P₁ (Treatment A) and P₂ (Treatment B)." 1. Deductive hypothesis 2. Null hypothesis 3. Directional Hypothesis 4. Guiding Hypothesis A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00

Objective Question				
12	984012	A is a statistical approach to summarize the results of many quantitative studies that have investigated basically the same problem. 1. Meta-analysis 2. Literature Review 3. Literature Matrix 4. Annotating the Literature A1 : 1 A2 : 2 A3 : 3	4.0	0.00

A4 : 4

Objective Question

13	984013	The practice of maintaining records so that nobody can identify that which individual is associated with a certain set of data, is called: 1. Confidentiality 2. Anonymity 3. Coercion 4. Informed consent A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
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Objective Question

14	984014	If you have published a paper, and you use the same material in a second publication also, this is called: 1. Self-plagiarism 2. Mosaic Plagiarism 3. Ctrl+C plagiarism 4. #404 Error Plagiarism A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
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Objective Question

15	984015	Which among the following are the types of secondary data? A. books & journals B. data gained by asking and probing the sample C. television programmes D. official records of events E. economic forecasts Choose the most appropriate answer from the options given below: 1. A, D & E only 2. B, C & D only 3. A, C & E only 4. C, D & E only A1 : 1 A2 : 2	4.0	0.00
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A3 : 3

A4 : 4

Objective Question

16	984016	In which type of interview, the standardized questions read out by the interviewer according to an interview schedule and the answers are in closed format? 1. Semi-Structured Interview 2. Open-Structured Interview 3. Structured Interview 4. Unstructured Interview A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
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Objective Question

17	984017	Which scale generally measures a categorical variable? 1. Nominal 2. Ordinal 3. Ratio 4. Interval A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
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Objective Question

18

984018

Match List I with List II

4.0

0.00

LIST I		LIST II	
A.	Content Validity	I.	the degree to which a test measures an intended content area.
B.	Criterion related validity	II.	To what extent does this test reflect the construct it is intended to measure?
C.	Construct validity	III.	To what extent does the test create harmful consequences for the test taker?
D.	Consequential validity	IV.	To what extent does this test correlate highly with another test?

Choose the correct answer from the options given below:

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

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

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

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

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

19	984019	The independent variable in a research is called as: 1. treatment variable 2. posttest variable 3. criterion variable 4. effect variable A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
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Objective Question

20

984020

Match List I with List II

4.0

0.00

LIST I		LIST II	
A.	Codes that are generated by a researcher by directly examining the data	I.	In vivo codes
B.	Codes that overlap partially or completely	II.	Inductive codes
C.	Codes that use the words of the research participants	III.	A priori codes
D.	Codes that were developed before examining the current data	IV.	Co-occurring codes

Choose the correct answer from the options given below:

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

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

21	984021		4.0	0.00
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Following are the steps of research process:

- A. Specifying a purpose for research
- B. Analyzing and interpreting the data
- C. Identifying a research problem
- D. Collecting data
- E. Reviewing the literature
- F. Reporting and evaluating research

Arrange the these steps in a correct sequence and choose the correct answer from the options given below:

- 1. A-C-B-D-F-E
- 2. C-E-A-D-B-F
- 3. C-A-E-D-B-F
- 4. C-A-B-E-D-F

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

22	984022	Following are the steps of the literature review: A. Identify key terms to use in your search for literature. B. Write a literature review C. Critically evaluate and select the literature for your review D. Locate literature about a topic by consulting several types of materials and databases, E. Organize the literature you have selected by abstracting or taking notes Choose the correct sequence from the options given below: 1. A-B-C-D-E 2. A-D-E-C-B 3. A-B-D-E-C 4. A-D-C-E-B A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
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Objective Question

23	984023		4.0	0.00
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		Following are the steps of data collection process in a research: A. Obtaining permissions needed from several individuals and organizations B. Determining the participants to study C. Locating and selecting instruments to use that will net useful data D. Considering what types of information to collect from several sources E. Administering the data collection process to collect data Choose the correct correct sequence of these steps and choose the correct sequence from the options given below: 1. A-C-D-B-E 2. C-A-D-B-E 3. B-A-D-C-E 4. B-D-A-C-D A1 : 1 A2 : 2 A3 : 3 A4 : 4		
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Objective Question

24	984024	Following are the steps of constructing an instruments: A. constructing B. validating C. planning D. evaluating Choose the correct sequence of these steps from the options given below: 1. B, A, D, C 2. C, A, D, B 3. B, D, C, A 4. D, C, B, A A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
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Objective Question

25	984025		4.0	0.00
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Following are the steps of hypothesis testing:

- A. set the level of significance, or alpha level
- B. identify a null and alternative hypothesis
- C. make a decision about rejecting or failing to reject the null hypothesis
- D. compute the sample statistic
- E. collect data

Choose the correct sequence of steps from the options given below:

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

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

26	984026	Which one is a correct formula to convert any raw score to a z score (standard score)?	4.0	0.00
		1. $Z = \frac{X - \mu}{\rho}$ 2. $Z = \frac{\mu - X}{\rho}$ 3. $Z = \frac{X - \mu}{\sigma}$ 4. $Z = \frac{\rho - X}{\sigma}$ A1 : 1 A2 : 2 A3 : 3 A4 : 4		

Objective Question

27	984027	Which of the following is a test of pairwise comparisons conducted after obtaining a statistically significant F-test?	4.0	0.00
		1. ANOVA 2. Scheffé test 3. t-test 4. ANCOVA A1 : 1 A2 : 2		

		A3 : 3		
		A4 : 4		

Objective Question

28	984028	The squared correlation coefficient is known as: 1. coefficient of variance 2. coefficient of confidence 3. coefficient of regression 4. coefficient of determination A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
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Objective Question

29	984029	Which among the following are true about regression? A. It is a formula that allows us to predict behavior on the basis of information from another variable B. The simplest form of regression includes only three variables (X, Y and Z) C. The hostility score can be predicted using regression. D. To derive a regression equation, we must first establish a relationship between three variables. E. Correlation is always a better predictor than regression. Choose the most appropriate answer from the options given below: 1. A and C only 2. B and D only 3. C and E only 4. D and E only A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
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Objective Question

30	984030	Which among the following is a correct reference of a book as per APA Style? 1. Kumar, Ranjit (2018). <i>Research Methodology: A step top Step Guide for Beginners</i> (2nd ed.). Noida: Pearson India 2. Kumar, Ranjit (2018). <i>Research Methodology: A step top Step Guide for Beginners</i> (2nd ed.). Pearson India 3. Kumar, Ranjit (2018). <i>Research Methodology: A step top Step Guide for Beginners</i> (2nd ed.). Noida: Pearson India 4. Kumar, R. (2018). <i>Research Methodology: A step top Step Guide for Beginners</i> (2nd ed.). Pearson India	4.0	0.00
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A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

31

984031

Match List I with List II

4.0

0.00

LIST I		LIST II	
A.	A storytelling approach	I.	It is similar to a quantitative study in which Introduction, Review of the Literature, Methods, Results and Discussion, are present.
B.	A theoretical approach	II.	When the author either starts with a theory (e.g., a theoretically oriented case study)
C.	A thematic approach	III.	The author uses literary devices (e.g., metaphors, analogies, plot, climax) and persuasive.
D.	A scientific approach	IV.	The author uses extensive quotes and rich details to support the themes.

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

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

32	984032	Which among the following are true about an abstract of a research report? A. The abstract is a brief description of the purpose of the project. B. It provides a summary of methodology only, the author has wished to work. C. This section gives the reader a general sense of the paper. D. The abstract is typed on the last page, immediately after the reference section page. Choose the most appropriate answer from the options given below: 1. A and B only 2. C and D only 3. A and C only 4. B and D only A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
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Objective Question

33	984033	Which among the following personal characteristics are to be considered by a researcher while doing a research related to a cultural group? A. Develop awareness of the culture of the group to study B. Become aware of the effects of the culture and oppression and discrimination C. Restrict the research to single linguistic and communication style D. Ensure the homogeneity that exists within any simple ethnic label E. Identify the degree to which an individual is acculturated Choose the most appropriate answer from the options given below: 1. A, B, and D only 2. B, C, and D only 3. A, C, and E only 4. A, B, and E only A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
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Objective Question

34	984034	Which among the following are true about stratified random sampling method? A. It specifies that each person in a population has the same chance of being included in a sample. B. It is a method falls under the category of non-probability sampling. C. In it, the groups of interest are identified, then participants are selected at random from these groups. D. It is useful for a homogeneous population. Choose the most appropriate answer from the options given below: 1. A and C only 2. B and D only 3. C 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

35	984035		4.0	0.00
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Which among the following are the types of measures of variability?

- A. Mode
- B. Quartile Deviation
- C. Median
- D. Carl-perason's Correlation
- E. Range

Choose the most appropriate answer from the options given below:

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

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

36	984036	Which among the following are the type of "Parametric Inferential Statistics"? A. Analysis of Variance B. Chi Square test C. The t-test D. Analysis of Covariance E. Kruskal-Wallis test Choose the most appropriate answer from the options given below: 1. B, C and E only 2. A, C and D only 3. A, B and E only 4. B, D and E only A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
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Objective Question

37	984037		4.0	0.00
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Which testing a two-tailed Null hypothesis, when the error may occur?

- A. Null hypothesis is true; and the researcher fails to reject it.
- B. Null hypothesis is true; and the researcher reject it.
- C. Null hypothesis is false; researcher fails to reject it.
- D. Null hypothesis is false; researcher rejects it.

Choose the most appropriate answer from the options given below:

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

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

38 984038

Match List I with List II

4.0

0.00

LIST I		LIST II	
A.	Equivalent-forms reliability	I.	determining how all items on a test relate to all other test items and to the total test.
B.	Split-half reliability	II.	degree to which scores on the same test are consistent over time.
C.	Test-retest reliability	III.	degree to which two similar forms of a test produce similar scores from a single group.
D.	Kuder-Richardson 20	IV.	involves dividing a test into two halves and correlating the scores on the two halves.

Choose the correct answer from the options given below:

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

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

39 984039

4.0

0.00

Match List I with List II

LIST I		LIST II	
A.	A question containing emotionally charged words	I.	Leading
B.	A question that suggests a certain answer	II.	Exclusive
C.	A question where response categories include all possible responses	III.	Loaded
D.	A question in which no response category is overlapping	IV.	Exhaustive

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- III, B- I, C- IV, D- II

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

40	984040	 is the idea that all knowledge comes from experience.	4.0	0.00
		1. Epistemology 2. Empiricism 3. Rationalism 4. Probabilistic stating		
		A1 : 1		
		A2 : 2		
		A3 : 3		
		A4 : 4		

Objective Question

41	984041	Which among the following does not fall under 4=Ds (four phases) of Action Research?	4.0	0.00
		1. Discovery 2. Dream 3. Develop 4. Design		
		A1 : 1		
		A2 : 2		
		A3 : 3		
		A4 : 4		

Objective Question				
42	984042	Which among the following is NOT a research database? 1. ERIC 2. Web of Science 3. PsycINFO 4. MIT-Courseware A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00

Objective Question				
43	984043	Which among the following is NOT a part of a research proposal? 1. Abstract 2. Analyzed data 3. Review of related literature 4. Apparatus A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00

Objective Question				
44	984044	Taking ascent is considered as an essential step under research Ethics. From whom the ascent is taken in general. 1. Parents of a Minor participant 2. Institutional review board 3. Teachers of a Minor participant 4. From the minor participant itself A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00

Objective Question				
45	984045		4.0	0.00

		Which among the following is a example of a double-barreled question in a questionnaire? 1. Do you think that physician should have more contact with parents and school administrators? 2. Do you think that teachers should have more contact with school administrators? 3. Do you think that teachers should have more contact with physician? 4. Do you think that parents should have more contact with physicians? A1 : 1 A2 : 2 A3 : 3 A4 : 4		
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Objective Question

46	984046	The purpose of pre-proposal fieldwork is to: 1. provide background that will prepare researchers for what they may expect to find in the research setting. 2. inform the research participants and make them ready in advance for data collection. 3. include the data of the socio-cultural context in advance. 4. to acquaint with the research participants and to encourage them for participating in research. A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
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Objective Question

47	984047	Which among the following initiatives of Government of India gives the idea about the on-going researches in any field? 1. Sodh Ganga 2. Sodh Suddhi 3. Sodh Gangotri 4. Sodh Sindhu A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
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Objective Question

48	984048		4.0	0.00
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		Which among the following plagiarism detection software is being provided to every Indian university from October 1, 2023? 1. Ouriginal 2. iThenticate 3. Turnitin 4. Drillbit-extreme A1 : 1 A2 : 2 A3 : 3 A4 : 4		
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Objective Question

49	984049	Which among the following is a Research Initiative proposed by National Education Policy-2020 in India? 1. National Research Foundation 2. National Foundation for Educational Research 3. National Educational Technology Forum 4. Forum for Promotion for Research and Development A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
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Objective Question

50	984050	Which among the following research database/index is NOT a part of UGC-CARE list? 1. SCOPUS 2. Social Science Citation Index (Web of Science) 3. Arts and Humanities Citation Index (Web of Science) 4. Google Scholar A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
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Objective Question

51	984051		4.0	0.00
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Who is the pioneer of chemotherapeutic agents?

1. Paul Ehrlich
2. Robert Koch
3. Louis Pasteur
4. Elie Metchnikoff

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

52	984052	Match the following <table><thead><tr><th>Name of the Scientist</th><th>Area of research</th></tr></thead><tbody><tr><td>A) S.A. Waksman</td><td>(I) microbial genetics</td></tr><tr><td>B) Alexander Fleming</td><td>(II) discovery of streptomycin</td></tr><tr><td>C) Beadle, Lederberg and Tatum</td><td>(III) PCR Technique</td></tr><tr><td>D) Kary Mullis</td><td>(IV) discovery of penicillin</td></tr></tbody></table> Choose the correct option from given combinations: 1. A-I, B-IV, C-II, D-III 2. A-IV, B-I, C-II, D-III 3. A-I, B-IV, C-III, D-II 4. A-II, B-IV, C-I, D-III A1 : 1 A2 : 2 A3 : 3 A4 : 4	Name of the Scientist	Area of research	A) S.A. Waksman	(I) microbial genetics	B) Alexander Fleming	(II) discovery of streptomycin	C) Beadle, Lederberg and Tatum	(III) PCR Technique	D) Kary Mullis	(IV) discovery of penicillin	4.0	0.00
Name of the Scientist	Area of research													
A) S.A. Waksman	(I) microbial genetics													
B) Alexander Fleming	(II) discovery of streptomycin													
C) Beadle, Lederberg and Tatum	(III) PCR Technique													
D) Kary Mullis	(IV) discovery of penicillin													

Objective Question

53	984053		4.0	0.00
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Match the following:

Fermented product

Micro-organisms involved

A. Miso

I. *Rhizopus* mold

B. Soft cheese Camembert

II. *Aspergillus oryzae*

C. Sauerkraut

III *Lactobacillus plantarum*

D. Tempeh

IV *Penicillium camembertii*

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

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

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

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

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

54	984054	In Gram negative bacteria, which of the following flagellar components is directly in contact with the plasma membrane?	4.0	0.00
		1. Filament 2. L ring 3. P ring 4. M ring		
		A1 : 1		
		A2 : 2		
		A3 : 3		
		A4 : 4		

Objective Question

55	984055	The pore size of laminar air flow filter is:	4.0	0.00
		1. between 1 to 5 micrometer 2. less than 0.22 micrometer 3. between 0.22 nm to 0.45 nm 4. more than .045 micrometer		
		A1 : 1		
		A2 : 2		
		A3 : 3		

		A4 : 4		
Objective Question				
56	984056	Which of the following compounds is an effective algicide? 1. Silver chloride 2. Silver nitrate 3. Copper sulphate 4. Benzalkonium chloride A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
Objective Question				
57	984057	Okazaki fragments are: 1. when DNA fragments are synthesized in continuous form in 5' to 3' direction 2. when RNA fragments are synthesized in 5' to 3' direction 3. when DNA fragments are synthesized in small fragments in 5'-to 3' direction 4. when DNA fragments are synthesized in small fragments in 3' to 5' direction A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
Objective Question				
58	984058	Which of the following amino acids is Zwitter ionic in nature? 1. Arginine 2. Lysine 3. Glutamic acid 4. Valine A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
Objective Question				
59	984059		4.0	0.00

		Which of the following bacteria is NOT a part of the ESKAPE group of pathogens 1. <i>Klebsiella pneumoniae</i> 2. <i>Pseudomonas aeruginosa</i> 3. Group A <i>Streptococcus</i> 4. <i>Acinetobacter baumannii</i> A1 : 1 A2 : 2 A3 : 3 A4 : 4		
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Objective Question

60	984060	Membrane fluidity in bacteria is controlled by 1. ergosterol 2. integral proteins 3. porin 4. unsaturated fatty acids A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
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Objective Question

61	984061	Which of the following is TRUE about translocation, the final phase in the elongation cycle during translation? 1. The peptidyl-tRNA moves from the P site to the A site 2. This phase is catalyzed by peptidyl transferase 3. The empty tRNA leaves the P site 4. The ribosome moves 3 codons along the mRNA A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
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Objective Question

62	984062		4.0	0.00
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		Which of the following has maximum absorption affinities in cation exchange process that occurs in soil? 1. Ca^{2+} 2. Mg^{2+} 3. Al^{3+} 4. NH_4^+ A1 : 1 A2 : 2 A3 : 3 A4 : 4		
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Objective Question

63	984063	Among the microbes listed below, which is the most abundant in acid mine drainages? 1. <i>Leptospirillum spp.</i> 2. <i>E. coli</i> 3. <i>Pseudomonas aeruginosa</i> 4. <i>Klebsiella pneumoniae</i> A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
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Objective Question

64	984064	Which enzyme is used in ELISA with the substrate pNPP and reaction is measured spectrophotometrically at which wavelength? 1. Alkaline phosphatase, 492 nm 2. HRP, 405 nm 3. Alkaline phosphatase, 405 nm 4. HRP, 495 nm A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
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Objective Question

65	984065		4.0	0.00
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		Which of the following statements is NOT true about normal souring of raw milk by <i>Streptococcus lactis</i>? 1. Lactose is converted to lactic acid 2. Pyruvic acid is the key intermediate 3. Pyruvic acid is converted to lactic acid by reacting with NADH and H⁺ 4. Two molecules of glucose are converted to one molecule of pyruvic acid A1 : 1 A2 : 2 A3 : 3 A4 : 4		
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Objective Question

66	984066	The mechanism of antifungal action of ketoconazole is 1. inhibition of ergosterol biosynthesis 2. inhibition of protein synthesis 3. inhibition of RNA synthesis 4. inhibition of DNA synthesis A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
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Objective Question

67	984067	A chi-square test is 1. used to determine if there is an association between two categorical variables 2. used to determine if there is an association between two continuous variables 3. used to compare the means of multiple groups 4. used to determine if the sample size used is appropriate A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
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Objective Question

68	984068		4.0	0.00
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		ABC protein secretion pathway is NOT involved in the secretion of 1. proteases 2. lipases 3. α-hemolysin 4. needle proteins A1 : 1 A2 : 2 A3 : 3 A4 : 4		
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Objective Question

69	984069	Which of the following statements is NOT true about lysosomes? 1. Lysosomes join with phagosomes for defensive purposes 2. Lysosomes do not release their digestive enzymes into the cytoplasmic matrix 3. Primary lysosomes bind with golgi bodies to yield secondary lysosomes 4. Autophagic vacuoles are secondary lysosomes A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
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Objective Question

70	984070	Composting using rotating drum with special raw material and feedstocks : 1. is a crude method of composting 2. demands low technology 3. demands intermediate technology 4. demands high technology A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
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Objective Question

71	984071		4.0	0.00
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		A molecular technique that can be used for identification of microbes employs alkali catalysed reaction between fats or fatty acids and methanol, the technique is known as: 1. RADP 2. BIOLOG 3. RFLP 4. FAME's A1 : 1 A2 : 2 A3 : 3 A4 : 4		
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Objective Question

72	984072	The growth of marine bacteria is 1. not affected by turbidity of water 2. not affected by the photosynthetic organisms in water 3. affected by the particulate matter in water 4. not affected by the hydrostatic pressure of water A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
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Objective Question

73	984073	MacConkey agar is 1. an enriched medium 2. both a selective and an enriched medium 3. both a differential and an enriched medium 4. both a differential and a selective medium A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
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Objective Question

74	984074		4.0	0.00
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		Which of the following statements is NOT true about Actinobacteria? 1. They are Gram negative 2. They are a source of antibiotics 3. They produce geosmin 4. They are capable of nitrogen fixation A1 : 1 A2 : 2 A3 : 3 A4 : 4		
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Objective Question

75	984075	Which of the following electromagnetic radiation has the longest wavelength 1. Gamma rays 2. X rays 3. UV radiation 4. Infrared radiation A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
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Objective Question

76	984076	Arrange landmark discoveries /inventions in microbiology in chronological order A. Development of the rabies vaccine B. Discovery of human immunodeficiency virus-1 C. Elimination of small pox from the world D. mRNA vaccines approved for human use Choose the correct answer from the options given below: 1. (A) → (B) → (C) → (D) 2. (A) → (C) → (B) → (D) 3. (C) → (A) → (B) → (D) 4. (B) → (A) → (C) → (D) A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
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Objective Question

77	984077	Slime forming bacteria that plays a major role in treatment of wastewater in trickling filters is: 1. <i>Sphaerotilus natans</i> 2. <i>Klebsiella pneumoniae</i> 3. <i>Bradyrhizobium japonicum</i> 4. <i>Zoogloea ramigera</i> A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
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Objective Question

78	984078	The mechanism of bacterial transformation with ds-DNA fragments has been well studied in <i>Streptococcus pneumoniae</i>. Arrange the steps below in the correct order A. DNA binding protein binds to ds-DNA fragments B. Cleavage by endonucleases C. One strand is hydrolyzed by a nuclease D. Integration into the homologous region of the bacterial chromosome. Choose the correct answer from the options given below: 1. $A \rightarrow B \rightarrow C \rightarrow D$ 2. $B \rightarrow A \rightarrow C \rightarrow D$ 3. $B \rightarrow C \rightarrow A \rightarrow D$ 4. $C \rightarrow B \rightarrow A \rightarrow D$ A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
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Objective Question

79	984079	Bacterial spore formation normally starts when growth ceases due to the lack of nutrients. Arrange the steps in bacterial spore formation in the correct order A. Engulfment of forespore B. Septum formation C. Axial filament formation D. Cortex formation Choose the correct answer from the options given below: 1. $B \rightarrow A \rightarrow C \rightarrow D$ 2. $C \rightarrow B \rightarrow A \rightarrow D$ 3. $A \rightarrow B \rightarrow C \rightarrow D$ 4. $D \rightarrow A \rightarrow B \rightarrow C$ A1 : 1 A2 : 2	4.0	0.00
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		A3 : 3		
		A4 : 4		
Objective Question				
80	984080	Enzyme used in clarification of juices can be obtained from <i>Aspergillus niger</i>. The enzyme is: 1. Invertase 2. Pectinase 3. Alpha-amylase 4. Rennin A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
Objective Question				
81	984081	In SDS-PAGE, separation of molecules is on the basis of: 1. only mass (size) 2. only charge on the molecule 3. mass and charge on the molecule 4. Secondary structure A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
Objective Question				
82	984082	Membrane filters are used to remove microbes from liquids. Which of the following microbes will NOT be filtered by membrane filters A. <i>Escherichia coli</i> B. <i>Candida albicans</i> C. SARS-CoV-2 D. Viroids Choose the most appropriate answer from the options given below: 1. C and D only 2. D only 3. C only 4. B, C and D only A1 : 1	4.0	0.00

		A2 : 2		
		A3 : 3		
		A4 : 4		

Objective Question

83	984083	Enzyme used in starch processing and splits alpha-1,6-glycosidic bonds is: 1. Pullulanases from <i>Klebsiella aerogenes</i> 2. Alpha-amylase from <i>Aspergillus niger</i> 3. Invertase from <i>Saccharomyces cerevisiae</i> 4. Lactase from <i>Saccharomyces cerevisiae</i> A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
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Objective Question

84	984084	Which of the following statements are TRUE about purple sulfur bacteria? A. They are anaerobes B. They contain sulfur granules C. They have the ability to reduce hydrogen sulfide D. They are photolithoautotrophs Choose the most appropriate answer from the options given below: 1. A, B and C only 2. B, C and D only 3. B and C 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

85	984085		4.0	0.00
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Why *Zymomonas mobilis* could not replace *Saccharomyces cerevisiae* as an alternate ethanol producer in industries. The reason(s) for this is(are):

- A. It utilizes only three carbohydrates: glucose, fructose and sucrose
- B. The organism utilizes the Entner Doudoroff pathway that is not energy producing as compared to other pathway
- C. More by-products are formed by this organism
- D. It uses fructose as a substrate and produces only 90% of ethanol, that is less than *Saccharomyces cerevisiae* which utilizes glucose and produces 95% ethanol.

Choose the most appropriate answer from the options given below:

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

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

86	984086	Which of the following statements are TRUE for bacterial membranes? A. Bacterial membranes are bilayered structures B. Fatty acids are linked to glycerol through ester linkage C. Branched isoprene chains are linked to glycerol through ether linkage D. Ergosterol is important component of bacterial membrane Choose the most appropriate answer from the options given below: 1. A and B only 2. A and C only 3. C and D only 4. B and D only A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
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Objective Question

87	984087		4.0	0.00
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		Which of the following can regulate bacterial transcription? A. Sigma factors B. Satellite DNA C. Repressor proteins D. termination codon Choose the most appropriate answer from the options given below: 1. A, B and D only 2. A, and C only 3. A, B, C and D 4. B,C and D only A1 : 1 A2 : 2 A3 : 3 A4 : 4		
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Objective Question

88	984088	Dideoxynucleotide triphosphates are used for A. polymerase chain reactions B. real-time polymerase chain reactions C. Sanger sequencing D. bisulphite sequencing Choose the most appropriate answer from the options given below: 1. C only 2. B only 3. A, B and C 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

89	984089	Which of the following statements about nitrogen fixation in bacteria are TRUE? A. Nitrogen fixing bacteria can be aerobes or anaerobes B. Nitrogen fixation is an energy intensive process C. Nitrogenase is oxygen sensitive D. Ammonia is an inhibitor of nitrogen fixation Choose the most appropriate answer from the options given below: 1. A, B and C only 2. A, B and D only 3. A, B, C and D 4. B, C and D	4.0	0.00
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A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

90	984090	Which of the following statements are TRUE about t-test? A. A t-test is used to compare the medians B. A t-test is used to compare means C. A t-test is used to compare standard deviation D. A t-test can be used for two groups with unequal sample size Choose the most appropriate answer from the options given below: 1. A, C and D only 2. B, C and D only 3. A and D only 4. B and D only A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
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Objective Question

91	984091	Organisms whose sole source of carbon is carbon dioxide and use inorganic electron donors are termed as: 1. Chemo-lithotrophs 2. Chemo-organotrophs 3. Photo-lithotrophs 4. Photo-organotrophs A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
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Objective Question

92	984092		4.0	0.00
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		Which of the following statements are TRUE about next generation sequencing (NGS) technologies? A. It does not requires DNA isolation B. NGS technologies involve massive parallel sequencing C. NGS technologies can be used for <i>de novo</i> sequencing D. All NGS technologies are based on chain termination method Choose the most appropriate answer from the options given below: 1. A, B and C only 2. A, B and D only 3. B and C only 4. B, C and D only A1 : 1 A2 : 2 A3 : 3 A4 : 4		
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Objective Question

93	984093	Which of the following statements are TRUE about pulsed field gel electrophoresis (PFGE)? A. PFGE is used to detect polymorphisms using electrophoresis without the need for using restriction enzymes B. PFGE may provide an estimate of the approximate genome size C. Typical fragment sizes detected by PFGE range from 1 kb to 9 kb D. PFGE is used to differentiate two closely related microbial populations Choose the most appropriate answer from the options given below: 1. B and D only 2. A, B and D 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

94	984094		4.0	0.00
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Match List I with List II

LIST I (Stain/staining procedure)		LIST II (Application)	
A.	India ink	I.	Endospore staining
B.	Basic fuchsin (Gray method)	II.	Flagellar staining
C.	Malachite green (Schaeffer-Fulton procedure)	III.	Capsular visualization
D.	Ziehl-Neelsen staining	IV.	Detection of acid-fast bacteria

Choose the correct answer from the options given below:

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

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

95 984095

Match List I with List II

LIST I (Category of microbes)		LIST II (Description)	
A.	Microaerophilic	I.	Optimal growth occurs at 20-45°C
B.	Mesophilic	II.	Grow well at 15°C or lower temperatures
C.	Psychrophilic	III.	Do not grow well at oxygen levels of 20% or more
D.	Barophilic	IV.	Grow rapidly at high hydrostatic pressure

Choose the correct answer from the options given below:

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

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

96 984096

4.0

0.00

4.0

0.00

Match List I with List II

LIST I (Vitamins)		LIST II (Functions in bacteria)	
A.	Lipoic acid	I.	Aldehyde group transfer
B.	Riboflavin (B ₂)	II.	Transfer of acyl group
C.	Thiamine (B ₁)	III.	Precursor of FAD/FMN
D.	Biotin	IV.	Carboxylation

Choose the correct answer from the options given below:

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

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

97 984097

Match List I with List II

LIST I (Disease)		LIST II (Microbe)	
A.	Q fever	I.	<i>Streptococcus pyogenes</i>
B.	Lyme disease	II.	<i>Bordetella pertussis</i>
C.	Whooping cough	III.	<i>Borrelia burgdorferi</i>
D.	Scarlet fever	IV.	<i>Coxiella burnetii</i>

Choose the correct answer from the options given below:

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

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

98 984098

Match List I with List II

LIST I (Bioremediation technique)		LIST II (Explanation)	
A.	Biodegradation	I.	addition of nutrients at the site
B.	Biostimulation	II.	addition of potential bacterial strains at the contaminated sites
C.	Bioaugmentation	III.	providing oxygen at the site for enhanced remediation
D.	Bioventing	IV.	natural and slow process

Choose the correct answer from the options given below:

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

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

99	984099	There were 1000 live bacterial cells in the medium that after a certain period of time resulted in a population of 100,000,000 cells, using the equation $3.3(\log N \text{ to the base } 10 - \log N_0 \text{ to the base } 10)$, calculate the number of generations. 1. 1.5 generations 2. 15.5 generations 3. 16.5 generations 4. 3.3 generations A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
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Objective Question

100	984100	The most common earthworm used for composting also known as red wiggler, manure worm is: 1. <i>Eisenia foetida</i> 2. <i>Lumbricus rubella</i> 3. <i>Perionyx excavatus</i> 4. <i>Eudrilus eugeniae</i> A1 : 1 A2 : 2	4.0	0.00
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		A3 : 3		
		A4 : 4		