

PREVIEW QUESTION BANK

Module Name : Agricultural Statistics-ENG
Exam Date : 09-Jul-2023 Batch : 14:30-16:30

Sr. No.	Client Question ID	Question Body and Alternatives	Marks	Negative Marks
Objective Question				
1	2001	Which one of the following is not one of the features of parliamentary form of government? 1. Majority party rule 2. Collective Responsibility 3. Integrated and Independent Judiciary 4. Dissolution of the lower house A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
Objective Question				
2	2002	Which of the following term implies that 'India is a neither a dependency nor a dominion of any other nation'? 1. Socialist 2. Sovereign 3. Secular 4. Democratic A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
Objective Question				
3	2003	Which of the following form the maximum water composition on the earth's surface? 1. Oceans 2. Ice caps 3. Glaciers 4. Lakes A1 : 1 A2 : 2	4.0	1.00

		A3 : 3		
		A4 : 4		
Objective Question				
4	2004	Which one of the following does not fall under the category of 'biomes? 1. Forest 2. Sky 3. Desert 4. Grassland A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
Objective Question				
5	2005	IUCN publishes information about which of the following species as Red List of threatened species? 1. Endangered Species 2. Vulnerable Species 3. Extinct Species 4. Rare Species A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
Objective Question				
6	2006	Who was the first Indian to win an individual medal in Olympics? 1. Milkha Singh 2. Karnam Malleshwari 3. P. T. Usha 4. K. D. Jadhav A1 : 1 A2 : 2 A3 : 3	4.0	1.00

		A4 : 4		
Objective Question				
7	2007	Who among the following reformers founded "Arya Samaj"? 1. Raja Ram Mohan Roy 2. Swami Dayananda Saraswati 3. Atmaram Pandurang 4. Ishwarchandra Vidyasagar A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
Objective Question				
8	2008	What does "Triratna" mean in Buddhism? 1. Tripitaka 2. Buddha, Dhamma (dharma), Sangha 3. Satya, Ahimsa, Karuna 4. Sheel, Samadhi, Sangha A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
Objective Question				
9	2009	Who started the Indian Reforms Association? 1. Narayan Guru 2. Swami Vivekananda 3. Krishna swami Aiyar 4. Keshav Chandra Sen A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
Objective Question				

10	2010	Consider the following statements (A). UN General Assembly has declared 2023 as the international year of millets (B). Odisha govt. ropes in FICCI to promote millets globally (C). Odisha Millets Mission is a flagship programme of the Odisha government to revive millets in farms and on plates Choose the correct answer from the options given below: 1. (A) and (B) only. 2. (B) and (C) only. 3. (A) and (C) only. 4. (A), (B) and (C). A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
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Objective Question

11	2011	Phomopsis blight occurs in which of the following crops? 1. Brinjal 2. Bajra 3. Sugarcane 4. Potato A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
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Objective Question

12	2012	Endemic pests can be described as? 1. Pest occurs in a few specific area. 2. Pest occurs in same area, year after year. 3. Pest occurs frequently in current season in abundance. 4. Pest occurs in severe form. A1 : 1 A2 : 2 A3 : 3	4.0	1.00
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		A4 : 4		
Objective Question				
13	2013	Which country is the largest producer of raw silk? 1. Japan 2. India 3. China 4. South Korea A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
Objective Question				
14	2014	Transfer of Ownership is the example of which utility..... 1. Time utility 2. Place utility 3. Possession utility 4. Form utility A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
Objective Question				
15	2015	What happens to the total number of chromosomes during mitotic cell division? 1. gets doubled 2. gets halved 3. remains the same 4. divides into four A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00

Objective Question

16	2016	What is the minimum forest cover to be maintained as per the National Forest Policy, 1988? 1. One-half 2. One-third 3. One-fourth 4. Two-third A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
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Objective Question

17	2017	Who among the following is known as the "Father of Agronomy"? 1. Stephen Hales 2. Gregor Johann Mendel 3. Peter Decresenzi 4. D N Walia A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
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Objective Question

18	2018	Which of the following plant hormones helps in shoot elongation? 1. Auxin 2. Gibberellic acid 3. Absciscic acid 4. Cytokinin A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
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Objective Question

19	2019		4.0	1.00
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		Select from the following the chemical property of soil..... 1. Colour 2. pH 3. Texture 4. Structure A1 : 1 A2 : 2 A3 : 3 A4 : 4		
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Objective Question

20	2020	The process of separating quality grains from chaff is called as..... 1. Winnowing 2. Threshing 3. Harvesting 4. Tilling A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
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Objective Question

21	191001	The mean and the median of the ten numbers in increasing order 10, 22, 26, 29, 34, x, 42, 67, 70, y are 42 and 35 respectively, then y/x is equal to 1. $9/4$ 2. $7/2$ 3. $8/3$ 4. $7/3$ A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
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Objective Question

22	191002		4.0	1.00
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If X follows Normal distribution with mean 4 and variance 100, then the distribution of $Y = \frac{1}{2} \left(\frac{X-4}{10} \right)^2$ is

1. Exponential with mean 4
2. Chi square with one degree of freedom
3. Gamma distribution with parameter 1/2
4. Normal with mean 4 and variance 10

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

23 191003

If the correlation coefficients of zero order in a set of 3 variates were equal to ρ each, then the multiple correlation $R_{1.23}^2$ is equal to

1. ρ
2. $\frac{2\rho^2}{1+\rho}$
3. $\frac{\rho^2}{1+\rho}$
4. +1

A1 : 1

A2 : 2

A3 : 3

A4 : 4

4.0 1.00

Objective Question

24 191004

X is a random variable with $EX = 3$ and $EX^2 = 13$. If Q be the probability of the event: $-2 \leq X \leq 8$, then which one of the following statements follows from Chebychev's inequality?

1. $Q \geq 0.84$
2. $Q \leq 0.84$
3. $Q \geq 0.36$
4. $Q \leq 0.16$

A1 : 1

A2 : 2

A3 : 3

A4 : 4

4.0 1.00

Objective Question

25	191005	Let 4, 2, 2, 5, 1, 2, 4, 3, 2, 5 be a sample of size 10 from a population following Poisson (λ) distribution. The UMVUE of λ is 1. 40 2. 8 3. 4 4. 3 A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
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Objective Question

26	191006	Consider the following statements for a test of significance: (A). Size = $1 - P$ (Type I error) (B). Power = $1 - P$ (Type II error) (C). Power = P (Type II error) (D). Size = P (Type I error) Choose the correct 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	1.00
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Objective Question

27	191007		4.0	1.00
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Consider the 2 x 2 contingency table on two attributes A and B

	A ₁	A ₂
B ₁	10	20
B ₂	30	40

What is the value of χ^2 for testing the independence of the attributes A and B?

1. 0.79
2. 0.81
3. 0.83
4. 0.85

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

28 191008

4.0 1.00

Which of the following tests should be employed for deciding whether or not two samples come from the same skewed parent population?

- (A). Paired t-test
- (B). t-test
- (C). Run test
- (D). Sign test

Choose the **correct** answer from the options given below:

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

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

29 191009

4.0 1.00

A test in which decision about H_0 is taken after each successive observation is known as

1. Bayes' test
2. Likelihood ratio test
3. Sequential probability ratio test
4. Student's ratio test

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

30 191010

4.0 1.00

The following ANOVA table is obtained for a two variable linear regression:

Source of variation	Degrees of freedom	Sum of squares
Regression	1	122.5
Residual	3	77.5
Total	4	200

The correlation between the regressor and the regressand is

1. 0.3875
2. 0.6125
3. 0.6225
4. 0.7826

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

31 191011

4.0 1.00

The total number of second and third order interactions in 2^5 factorial experiment are

1. 20
2. 15
3. 10
4. 5

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

32	191012	Which one of the following is reduced by confounding in a factorial experiment? 1. Non-sampling error 2. Sampling error 3. Standard error 4. Experimental error A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
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Objective Question

33	191013	The efficiency of SRSWOR with respect to SRSWR is (here N and n are population and sample sizes respectively) 1. $\frac{N-n}{N-1}$ 2. $\frac{N-1}{n-1}$ 3. $\frac{n-1}{N-1}$ 4. $\frac{N-1}{N-n}$ A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
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Objective Question

34	191014		4.0	1.00
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A simple random sample of size 10 is selected with replacement from a population of size 100. What is the expected number of unique elements in the sample?

1. $100 \times \left(\frac{99}{100}\right)^{10}$

2. $100 \times \left[1 - \left(\frac{99}{100}\right)^{10}\right]$

3. $100 \times \left(\frac{9}{10}\right)^{10}$

4. $100 \times \left(1 - \frac{99}{100}\right)^{10}$

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

35 191015

In large samples, with simple random sampling, the ratio estimator of the population mean is more precise than the sample mean. If suppose the correlation coefficient between X and Y, $\rho > 3/8$, then the relationship between C_x and C_y is (here, C_x and C_y are coefficients of variation of x and y respectively)

1. $C_y = C_x$

2. $C_y = 2C_x$

3. $3C_y = 4C_x$

4. $4C_y = 3C_x$

A1 : 1

A2 : 2

A3 : 3

A4 : 4

4.0 1.00

Objective Question

36 191016

In families of three children, what is the probability of finding the oldest child to be a girl and the youngest, a boy?

1. $1/2$

2. $1/3$

3. $1/4$

4. $1/6$

A1 : 1

4.0 1.00

		A2 : 2		
		A3 : 3		
		A4 : 4		
Objective Question				
37	191017	A type of allelic interaction in which the phenotype of the heterozygote is outside the phenotypic limit of the corresponding homozygotes is called 1. Complete dominance 2. Incomplete dominance 3. Overdominance 4. Additive genes A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
Objective Question				
38	191018	Yellow body colour in <i>Drosophila</i> is governed by a sex-linked recessive gene; wild-type colour is produced by its dominant allele. A sample from a Hardy-Weinberg population contained 1021 wild-type males, 997 wild-type females, and 3 yellow males. The percentage of gene pool represented by the yellow allele is estimated to be 1. 0.04 2. 0.16 3. 0.21 4. 0.29 A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
Objective Question				
39	191019		4.0	1.00

Let R be a relation schema and let X and Y be non-empty sets of attributes in R. We say that an instance r of R satisfies the following for every pair of tuples t_1 and t_2 in r:

If $t_1:X = t_2:X$, then $t_1:Y = t_2:Y$

The above is a kind of integrity constraint that generalizes the concept of a key called

1. No Dependency
2. Independency
3. Transitive Dependency
4. Functional Dependency

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

40 191020

4.0 1.00

Neighbor-joining method is used for

1. Carbohydrate Structure Prediction
2. Protein Structure Prediction
3. Phylogenetic Tree Construction
4. Primer Designing

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

41 191021

4.0 1.00

Which of the following is miRNA sequence database?

1. EMBL
2. miRanda
3. miRBase
4. miRData

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question				
42	191022	RNA is made up of following molecules except 1. Phosphate 2. Pentose Sugar 3. Thymine 4. Uracil A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00

Objective Question				
43	191023	At what position of DNA, Phosphate is attached? 1. 1' 2. 2' 3. 3' 4. 5' A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00

Objective Question				
44	191024	Which of the following molecules takes part in splicing? 1. Pre-mRNA 2. tRNA 3. miRNA 4. siRNA A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00

Objective Question				
45	191025		4.0	1.00

		Dynamic Programming algorithm is used in 1. Protein-protein interaction network 2. Pairwise Alignment of nucleotide sequences 3. 2D Structure Prediction of protein 4. 3D Structure Prediction of protein A1 : 1 A2 : 2 A3 : 3 A4 : 4		
Objective Question				
46	191026	In comparison to Position Specific Scoring Matrices (PSSM), Hidden Markov Model (HMM) is 1. Equally sensitive to detect homology 2. More sensitive to detect homology 3. Less sensitive to detect homology 4. Not able to detect homology A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
Objective Question				
47	191027	Which of the following is a repository for 3D structure of macromolecules? 1. EMBL-Bank 2. RefSeq 3. PDB 4. Swiss-Prot A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
Objective Question				
48	191028		4.0	1.00

Consider the following statements about BLOSUM (BLOcks SUBstitution Matrix) matrices:

(A). It was first introduced by Henikoff and Henikoff.

(B). Local multiple alignments of more distantly related sequences were used to create BLOSUM.

(C). BLOSUM matrices are derived from PROSITE signatures of the BLOCKS database.

Choose the **correct** answer from the options given below:

1. (A) and (B) only
2. (B) and (C) only
3. (A) and (C) only
4. (A), (B) and (C)

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

49	191029	Given below are two statements: Statement (I): Orthologs are homologous sequences in different species that arose from a common ancestral gene during speciation. Statement (II): Paralogs are homologous sequences that arose by a mechanism such as gene duplication. In light of the above statements, choose the <i>most appropriate</i> answer from the options given below. 1. Both Statement (I) and Statement (II) are true. 2. Both Statement (I) and Statement (II) are false. 3. Statement (I) is true but Statement (II) is false. 4. Statement (I) is false but Statement (II) is true. A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
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Objective Question

50	191030		4.0	1.00
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Match **List-I** with **List-II**

List-I	List-II
(A). Geno3D	(I). A web-based GenBank sequence submission tool
(B). PAUP	(II). Comparative protein structure modelling server
(C). Rasmol	(III). Standard program for phylogenetic analysis
(D). BankIT	(IV). Multi-conformer docking program
(E). FRED	(V). Molecular viewer

Choose the **correct** answer from the options given below:

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

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

51 191031

4.0 1.00

Which of the following cannot be used for protein structure prediction by comparative modelling?

1. 3Djigsaw
2. ESyPred3D
3. Swiss-Model
4. MEGA

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

52 191032

4.0 1.00

Given below are two statements regarding methods for reconstructing phylogenetic trees:

Statement (I): The neighbour-joining method does not assume all sequences have the same constant rate of evolution over time, and this method is related to the concept of minimum evolution.

Statement (II): The Fitch-Margoliash method does not make assumptions of constant mutation rate, and this method produces a rooted ultrameric tree.

In light of the above statements, choose the *most appropriate* answer from the options given below.

1. Both Statement (I) and Statement (II) are true.
2. Both Statement (I) and Statement (II) are false.
3. Statement (I) is true but Statement (II) is false.
4. Statement (I) is false but Statement (II) is true.

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

53	191033	What is cout in C++? 1. Function 2. Object 3. Macro 4. Operator A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
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Objective Question

54	191034	Given below are two statements: Statement (I): Techniques based on self-organizing maps (SOMs) which is a form of supervised neural network, can be used for analysis of microarray gene expression data. Statement (II): Self-organizing tree algorithm (SOTA) determines the number of clusters required in gene expression data analysis. In light of the above statements, choose the <i>most appropriate</i> answer from the options given below. 1. Both Statement (I) and Statement (II) are true. 2. Both Statement (I) and Statement (II) are false. 3. Statement (I) is true but Statement (II) is false. 4. Statement (I) is false but Statement (II) is true.	4.0	1.00
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		A1 : 1		
		A2 : 2		
		A3 : 3		
		A4 : 4		

Objective Question

55	191035	Which HTML Tag is used to enclose any number of Javascript statements in HTML document: 1. code Tag 2. script Tag 3. title Tag 4. body Tag A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
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Objective Question

56	191036	Software products need perfective maintenance for which of the following reasons ? 1. To rectify bugs observed while the system is in use 2. When the customers need the product to run on new platforms 3. To support the new features that users want it to support 4. To overcome wear and tear caused by the repeated use of the software A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
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Objective Question

57	191037	The algebraic function of the Exclusive-OR (XOR) operation is: (Where ' represents Complement Operation) 1. $F = A \cdot B$ 2. $F = A' B' + A B$ 3. $F = A' B + A B'$ 4. $F = A + B$ A1 : 1	4.0	1.00
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		A2 : 2		
		A3 : 3		
		A4 : 4		
Objective Question				
58	191038	In ICAR-ERP, what does ERP stands for? 1. Entrepreneur Resource System 2. Enterprise Resource Planning 3. Enterprise Resilient Planning 4. Employee Response System A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
Objective Question				
59	191039	The Python library used for drawing graphs, high-defined figures and charts is 1. TensorFlow 2. Pandas 3. Numpy 4. Matplotlib A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
Objective Question				
60	191040	Which of the following is not a Big Data Analytics Tool: 1. Apache Hadoop 2. PHP 3. Mongo DB 4. Cassandra A1 : 1 A2 : 2	4.0	1.00

		A3 : 3		
		A4 : 4		

Objective Question

61	191041	The method that provides a simple, straightforward procedure for simplifying Boolean expressions is 1. Google Map 2. Karnaugh Map 3. Hash Map 4. Tree Map A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
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Objective Question

62	191042	Following documents have an implicit structure or hierarchy: (A) HTML (B) XML (C) XHTML Choose the correct answer from the options given below: 1. (A), and (B) only 2. (A), and (C) only 3. (A), (B) and (C) 4. (B) and (C) only A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
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Objective Question

63	191043	Which header file is required in C++ to use OOP? 1. assert.h 2. stdlib.h 3. iostream.h 4. stdio.h A1 : 1	4.0	1.00
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		A2 : 2		
		A3 : 3		
		A4 : 4		

Objective Question

64	191044	Which is the correct syntax of inheritance? 1. class base_classname :access derived_classname{ /*define class body*/ }; 2. class derived_classname : access base_classname{ /*define class body*/ }; 3. class derived_classname : base_classname{ /*define class body*/ }; 4. class base_classname : derived_classname{ /*define class body*/ }; A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
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Objective Question

65	191045	An algorithm that runs in $O(1)$ time is the ____, $O(\log N)$ is ____, $O(N)$ is ____, and $O(N^2)$ is ____. 1. Best, Bad, Fair, Very Good 2. Bad, Fair, Very Good, Best 3. Best, Very Good, Fair, Bad 4. Bad, Very Good, Best , Fair A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
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Objective Question

66	191046	There are several factors that affect the efficiency of lookup operations in a hash table. Which of the following is not one of those factors? 1. Number of elements stored in the hash table 2. Size of elements stored in the hash table 3. Number of buckets in the hash table 4. Quality of the hash function A1 : 1 A2 : 2	4.0	1.00
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A3 : 3

A4 : 4

Objective Question

67 191047

4.0 1.00

Goal	Threat
A. Confidentiality	I. Tampering with Data
B. Integrity	II. Denial of Service
C. Availability	III. Exposure of Data

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

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

68 191048

4.0 1.00

Type of security measure that involves limiting the types of operations that a program can perform on a computer system is known as

1. Firewall
2. Intrusion Detection
3. Least Privilege
4. Data Masking

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

69 191049

4.0 1.00

Match **List-I** with **List-II**

List-I	List-II
(A).The bits of the codeword are numbered consecutively, starting with bit 1 at the left end, bit 2 to its immediate right, and so on.	(I). Binary convolutional codes
(B).In a convolutional code, an encoder processes a sequence of input bits and generates a sequence of output bits.	(II). Hamming codes
(C). The linear block codes, which are often systematic too and operate on m bit symbols.	(III). Low-Density Parity Check codes.
(D). The linear block codes, in which each output bit is formed from only a fraction of the input bits.	(IV).Reed-Solomon codes

Choose the **correct** answer from the options given below:

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

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

70	191050	Which of the following is NOT TRUE about Ring Topology of Computer Networks?	4.0	1.00
1. The data flows in an anti-clockwise direction. 2. The data flows in an endless loop. 3. It has no terminated end. 4. It is unidirectional.				
A1 : 1				
A2 : 2				
A3 : 3				
A4 : 4				

Objective Question

71	1003551	If $X_1, X_2, X_3, \dots, X_n$ are a random sample from a Bernoulli distribution with parameter α then the unique UMVUE of α is its	4.0	1.00
1. Mean 2. Variance 3. Median 4. Mode				

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

Objective Question

72	1003552	Given that irradiated onion seeds exhibit on an average mutation rate of 0.5%, what is the probability of getting at least one mutant seeds if 100 of them are irradiated ($e^{-0.005}=1$ & $e^{-0.5}=0.606$) 1. 0.606 2. 0.404 3. 0.394 4. 0.596 A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
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Objective Question

73	1003553	Find the probability of getting at least 5 heads when six coins are thrown simultaneously in an experiment. 1. 0.119 2. 0.109 3. 0.881 4. 0.891 A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
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Objective Question

74	1003554	Moment Generating Function (MGF) of geometric distribution with probability of success as p and failure as q is expressed as 1. $p(1 - qe^t)$ 2. $p/(1 - qe^t)$ 3. $q/(1 - pe^t)$ 4. $q(1 - pe^t)$ A1 : 1	4.0	1.00
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		A2 : 2		
		A3 : 3		
		A4 : 4		

Objective Question

75	1003555	Suppose X is an uniform variate with the parameters 6 and 10, then its median and standard deviation are respectively worked out to be 1. 8 and 1.15 2. 2 and 1.15 3. 8 and 0.15 4. 2 and 0.15 A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
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Objective Question

76	1003556	Fisher-Behrens problem is employed to test 1. equality of two variances from normal populations with known mean 2. equality of two means from normal populations with known variances 3. equality of two means from normal populations with unknown variances 4. equality of two variances from normal populations with unknown mean A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
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Objective Question

77	1003557	Mean pest population count before and after a chemical spray as treatment is tested for its significance based on 1. Chi-square test 2. ANOVA 3. Paired t-test 4. Student's t-test A1 : 1 A2 : 2	4.0	1.00
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A3 : 3

A4 : 4

Objective Question

78	1003558	Which of the following is incorrect, if an experimenter wishes to increase the power of a statistical test? 1. Increase the sample size and level of significance 2. Narrow down the difference between the null and alternative values 3. Increase the difference between the null and alternative values 4. Increase the sample size and decrease the variability in the sample A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
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Objective Question

79	1003559	If a random variable X is distributed as $N(0,1)$, Y is a $\chi^2(v)$ random variate, and X & Y are independent then $(X/\sqrt{Y/v})$ is distributed as 1. $\chi^2(v-1)$ 2. $t(v)$ 3. $\chi^2(v-2)$ 4. $t(v-1)$ A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
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Objective Question

80	1003560	Let $X \sim U(0,1)$. Then the distribution of $Y = -2 \log X$ is 1. $\chi^2(1)$ 2. $\chi^2(2)$ 3. $N(0,1)$ 4. $U(1,2)$ A1 : 1 A2 : 2 A3 : 3	4.0	1.00
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A4 : 4

Objective Question

81	1003561	A quantity to be added to $\sum d_i^2$, where d_i is the difference between the ranks of the two variables for the i^{th} observation and the summation is over all such observations in case of computing rank correlation with repeated rank (m being the number of times a rank is repeated) is 1. $m^2(m-1)/12$ 2. $m^2(m^2-1)/12$ 3. $m(m^2-1)/12$ 4. $(m^3 - m^2)/12$ A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
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Objective Question

82	1003562	In a regression model, given that $R^2 = 0.8$, number of predictors=20 and sample size=101, compute the adjusted R^2 1. 0.25 2. 0.75 3. 0.8 4. 0.78 A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
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Objective Question

83	1003563	Identify a best step-wise regression model based on the pairs of P (number of predictors) and Cp (Mallows' stat) values given as 1. P=2 & Cp=2.9 2. P=3 & Cp=2.9 3. P=2 & Cp=40.5 4. P=3 & Cp=40.5 A1 : 1 A2 : 2 A3 : 3	4.0	1.00
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		A4 : 4		
Objective Question				
84	1003564	Non-parametric one-way ANOVA is performed using 1. Friedman's test 2. Mann-Whitney test 3. Kruskal-Wallis test 4. Sign test A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
Objective Question				
85	1003565	If two dice are thrown, then the probability that the sum of outcome is greater than 8 is 1. $\frac{1}{6}$ 2. $\frac{1}{12}$ 3. $\frac{5}{36}$ 4. $\frac{5}{18}$ A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
Objective Question				
86	1003566	Given below are two statements regarding Principal Component Analysis (PCA): Statement (I): All principal components are uncorrelated from one another Statement (II): PCA using the covariance function should only be considered if all of the variables have the same units of measurement In light of the above statements, choose the <i>most appropriate</i> answer from the options given below. 1. Both Statement (I) and Statement (II) are correct 2. Both Statement (I) and Statement (II) are incorrect. 3. Statement (I) is correct but Statement (II) is incorrect. 4. Statement (I) is incorrect but Statement (II) is correct. A1 : 1 A2 : 2	4.0	1.00

A3 : 3

A4 : 4

Objective Question

87	1003567	Given below are two statements: Statement (I): The positive random variable X is said to have a log-normal distribution if $\log_e X$ is normally distributed Statement (II): If X has a normal distribution, then e^X follows log-normal distribution In light of the above statements, choose the <i>most appropriate</i> answer from the options given below. 1. Assumes ordinal data 2. sample size > no of factors 3. outlier free 4. no perfect multicollinearity between the variables A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
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Objective Question

88	1003568	Consider the following pairs of statements regarding non-parametric tests: A. Cochran Q test- k related samples B. Sign test- k independent samples C. Wilcoxon signed rank test- 2 independent samples D. Friedman's test-k related samples Which of the above statements are correct? 1. A, B and C only 2. A, B and D only 3. A and B only 4. All are correct A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
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Objective Question

89	1003569		4.0	1.00
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Pascal distribution is also known as

1. Gamma distribution
2. Negative-binomial distribution
3. Geometric distribution
4. Beta distribution

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

90	1003570	Identify the statistical test used for testing equality of k population variances	4.0	1.00
		1. Independent t-test 2. Paired t-test 3. Bartlett test 4. Run test		
		A1 : 1		
		A2 : 2		
		A3 : 3		
		A4 : 4		

Objective Question

91	1003571	Consider the following statements: A. Test for randomness- run test B. Test for normality- White test C. Test for auto-correlation- Durbin-Watson test D. Test for homoscedasticity- Shaprio-wilk test Which of the above statements are incorrect? 1. A, B & C only 2. A, B & D only 3. B and D only 4. All are incorrect	4.0	1.00
		A1 : 1		
		A2 : 2		

A3 : 3

A4 : 4

Objective Question

92 1003572

4.0 1.00

The association between two attributes A and B is positive if

1. $\frac{(A)(B)}{N} > (AB)$
2. $\frac{(A)(B)}{N} < (AB)$
3. $\frac{(A)(B)}{N} = (AB)$
4. $\frac{(A)(B)}{N} \neq (AB)$

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

93 1003573

4.0 1.00

Consider the following statements:

- A. Number of sources and demands need not be equal
- B. Initial basic feasible solution can be obtained by North-west corner rule method
- C. Optimum solution is arrived using Modified distribution (MODI) method

Which one of the following is true in case of transportation problem in operation research?

1. All are true
2. A, and B only
3. B and C only
4. All are incorrect

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

94 1003574

4.0 1.00

In a 2^3 factorial experiment with three factors A, B and C, the interaction AC is confounded. Then, if in standard code notations the blocks within replicaitons are written, in which of the following arrangements AC is confounded with blocks?

1. Block 1: (1), (ab), (ac), (bc) & Block 2: (a), (b), (c), (abc)
2. Block 1: (1), (a), (bc), (abc) & Block 2: (b), (c), (ab), (ac)
3. Block 1: (1), (c), (ab), (ac) & Block 2: (a), (b), (bc), (abc)
4. Block 1: (1), (b), (ac), (abc) & Block 2: (a), (c), (ab), (bc)

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

95	1003575	Let there be six plots of land denoted by P_1, P_2, P_3, P_4, P_5 and P_6. The first three plots receive one treatment, say t_1 and the last three, another treatment, say, t_2. Suppose, further that the plots P_1 and P_4 receive one level of irrigation, P_2 and P_5, a second level, and P_3 and P_6 receive a third level of irrigation. Let y_1, y_2, y_3, y_4, y_5 and y_6 denote the observations on a character recorded from the above six plots in that order. Then the comparison $(y_1 - y_2) - (y_4 - y_5)$ is 1. free from any variation due to the treatments but not free from variations due to irrigation 2. free from any variation due to the irrigation but not free from variations due to treatments 3. free from any variability caused by both treatments and irrigation 4. neither free from any variability due to the treatments nor from variability due to irrigation A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
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Objective Question

96	1003576		4.0	1.00
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Match **List-I** with **List-II**

List-I	List-II
(A). Randomization	(I). Partitions total variation into controlled and error variations
(B). Replication	(II). Contains contributions due to uncontrolled factors
(C). Local control	(III). Ensures independence of observations
(D). ANOVA	(IV). Reduces the error variance
(E). Experimental Error	(V). Provides an estimate of error variance

Choose the **correct** answer from the options given below:

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

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

97 1003577

Consider the following statements and identify which of them pertain to "strip plot design" rather than "split plot design" assuming two factors (and their corresponding effects) viz. E as "main plot" and F as "subplot" in conventional nomenclature.

A. The E, F and EF effects are estimated with equal precision.

B. The design sacrifices the precision on the effects of main plot E and also of subplot F in order to provide higher precision on the interaction EF.

C. The design enables factors that require relatively large amounts of material and factors that require only small amounts of material to be combined in the same experiment.

D. The design may be convenient for field experiments where it is necessary to test both factors on relatively large areas.

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

A1 : 1

A2 : 2

A3 : 3

A4 : 4

4.0 1.00

Objective Question

98	1003578	Consider the following ANOVA table of the Latin Square Design: <table border="1"> <thead> <tr> <th>Sources of variation</th><th>Degrees of freedom</th><th>Sum of Squares</th><th>Mean Sum of Squares</th><th>F</th></tr> </thead> <tbody> <tr> <td>Rows</td><td>df_r</td><td>72</td><td>MS_r</td><td>2</td></tr> <tr> <td>Columns</td><td>df_c</td><td>A</td><td>36</td><td>F_c</td></tr> <tr> <td>Treatments</td><td>df_t</td><td>180</td><td>MS_t</td><td>B</td></tr> <tr> <td>Error</td><td>6</td><td>SS_E</td><td>12</td><td></td></tr> <tr> <td>Total</td><td>df_T</td><td>SS_T</td><td></td><td></td></tr> </tbody> </table> The values of A and B in the above LSD ANOVA table are respectively 1. 124 and 5 2. 108 and 3 3. 108 and 5 4. 124 and 2 A1 : 1 A2 : 2 A3 : 3 A4 : 4	Sources of variation	Degrees of freedom	Sum of Squares	Mean Sum of Squares	F	Rows	df_r	72	MS_r	2	Columns	df_c	A	36	F_c	Treatments	df_t	180	MS_t	B	Error	6	SS_E	12		Total	df_T	SS_T			4.0	1.00
Sources of variation	Degrees of freedom	Sum of Squares	Mean Sum of Squares	F																														
Rows	df_r	72	MS_r	2																														
Columns	df_c	A	36	F_c																														
Treatments	df_t	180	MS_t	B																														
Error	6	SS_E	12																															
Total	df_T	SS_T																																

Objective Question

99	1003579		4.0	1.00
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The table below shows the yields obtained in a Randomized Block Design (RBD) on four wheat types (treatments) in five replications (blocks), in which one value y_{D1} is missing. Also given are the treatment totals, block totals and the grand total computed from the available known observations.

Block ®	1	2	3	4	5	
Treatment –						Treatment totals –
A	32.3	34.0	34.3	35.0	36.5	172.1
B	33.3	33.0	36.3	36.8	34.5	173.9
C	30.8	34.3	35.3	32.3	35.8	168.5
D	y_{D1}	26.0	29.8	28.0	28.8	*112.6
Block totals ®	*96.4	127.3	135.7	132.1	135.6	*627.1
* total obtained from available observations						

Then the value of y_{D1} using Yates method of estimating the missing observations in this RBD set up is

1. 26.79
2. 25.44
3. 26.44
4. 25.79

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

100 1003580

4.0 1.00

A factorial experiment was conducted with two varieties of Paddy and three doses of each of Nitrogen and Phosphorus. A split plot design was adopted with the varieties in main plot and the nine combinations of Nitrogen and Phosphorus in subplots. There were two replications. The error degrees of freedom for the main plot and subplot in the ANOVA are respectively

1. 1 and 16
2. 1 and 8
3. 1 and 24
4. 3 and 16

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

101	1003581	Let in a Balanced Incomplete Block Design (BIBD), v be the number of treatments, b be the number of blocks, k be the block size, r be the number of replications and λ be the number of blocks in which any pair of treatments appear together, then the BIBD is said to be symmetric if 1. $b = k$ and $v = r$ 2. $b = r$ and $v = k$ 3. $b = v$ and $r = k$ 4. $vr = bk$ A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
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Objective Question

102	1003582	In dairy husbandry, a cross-over design was used to compare the effects of two 'feeding rations' on the amount and quality of milk produced by cows. On each of the 10 cows considered for the experiment, since cows vary greatly in their milk production over time, each ration was tested by feeding it during either the first or the second half of the 'period of lactation', so that each cow itself has been taken as a separate 'animal replicate pair'. Then the degrees of freedom of error and total in the ANOVA of such a design are respectively 1. 4 and 19 2. 3 and 9 3. 8 and 19 4. 5 and 19 A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
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Objective Question

103	1003583	Consider the table: <table><tr><td>Stratum</td><td>I</td><td>II</td><td>III</td></tr><tr><td>Size</td><td>200</td><td>300</td><td>300</td></tr><tr><td>Standard deviation</td><td>6</td><td>8</td><td>12</td></tr></table> A stratified sample size of 120 is to be drawn from this population. Considering the cost of survey from each stratum as the same, the sample size from Stratum II by Neyman allocation is 1. 72 2. 60 3. 40 4. 45	Stratum	I	II	III	Size	200	300	300	Standard deviation	6	8	12	4.0	1.00
Stratum	I	II	III													
Size	200	300	300													
Standard deviation	6	8	12													

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

104 1003584

4.0 1.00

In survey sampling, let Y be the characteristic under study and let X be the associated auxiliary characteristic with ρ as the correlation between them. Also let C_x and C_y be the coefficients of variation of X and Y respectively. Then to the first order of approximation, which of the following statements are correct:

A. The regression estimator is always more efficient than the sample mean of SRSWOR for estimating population mean whenever ρ is different from zero.

B. The ratio estimator will be more efficient than sample mean of SRSWOR for estimating population mean whenever $\rho < \frac{1}{2} \frac{C_x}{C_y}$.

C. The regression estimator is always more efficient than ratio estimator unless the relationship between Y and X is linear passing through the origin in which case the two estimators are equally efficient.

D. The product estimator used when ρ is negative is more efficient than sample mean for estimating population mean if $\rho < -\frac{1}{2} \frac{C_x}{C_y}$.

Choose the correct statements from the options given below:

1. A, B and C 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

Objective Question

105 1003585

4.0 1.00

Which of the following statements are correct:

- A. If clusters are formed at random, cluster sampling is as efficient as SRSWOR.
- B. The efficiency of cluster sampling decreases rapidly with the decrease in the size of the clusters.
- C. For cluster sampling to be efficient, the clusters should be so formed that the variation between cluster means is as small as possible while the variation within clusters is as large as possible.
- D. Cluster sampling may be preferred in situations when no reliable list of the elements of the population are available or it may be prohibitively expensive to construct such a list or economic considerations may point to choice of clusters as units rather than individual elements and hence in cluster sampling it can be stated that cost is balanced against precision.

Choose the correct statements from the options given below:

- 1. A, B and C 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

Objective Question

106	1003586	Suppose that N units in the population are numbered 1 to N in some order. In case of systematic sampling with sample of size n, selecting using 'every kth rule', consider the following statements: A. It amounts to stratifying the population into n strata consisting of first k units, the second k units and so on with the units occurring as the same relative position in the stratum rather than randomly within stratum. B. Since N is not in general an integral multiple of k, different systematic samples from the same finite population may vary by one unit in size. C. It amounts to selecting a single cluster of size n from a population of k clusters. D. Such a sampling is preferable when a periodic effect is suspected but not well known. Choose the correct answer from the options given below: 1. A, B and C 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	1.00
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Objective Question

107	1003587		4.0	1.00
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Consider a population with NM elements grouped into N first stage units (fsu's), each containing M second stage units (ssu's). Now assume that a sample of size ' nm ' has been drawn by first selecting n fsu's and then drawing ' m ' ssu's from each of the selected fsu's. Which of the following statements about such a subsampling are correct:

- A. The procedure of first selecting clusters called fsu's and then choosing a specified number of elements or groups of elements called ssu's within the selected clusters is also called two-phase sampling.
- B. The subsampling becomes cluster sampling if $m=M$.
- C. The subsampling becomes stratified sampling having $n=N$ with N fsu's as strata and m units drawn from each stratum.
- D. The subsampling becomes simple random sampling if $M=1$ and $m=1$.

Choose the correct statements from the options given below:

- 1. A, B and C 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

Objective Question

108	1003588	4.0	1.00
Identify the correct statement: 1. Sampling errors are present in both census and sample surveys. 2. Non-sampling errors can occur in any survey, whether complete enumeration or sampling. 3. Snowball sampling can be considered as a type of probability sampling. 4. The results obtained in a census study are always more accurate than those obtained through a sample survey. A1 : 1 A2 : 2 A3 : 3 A4 : 4			

Objective Question

109	1003589	4.0	1.00

In sampling theory, for linear trended population, considering sample size as n and variances of mean estimators under stratified, systematic and simple random sampling (SRS) as V_{st} , V_{sy} and V_{SRS} respectively, which of the following statements is appropriate:

1. Systematic sampling is much more efficient than SRS but less effective than stratified random sampling as $V_{st} : V_{sy} : V_{SRS}$ are in the ratio $1 : (1/n) : n$
2. Stratified random sampling is much more efficient than SRS but less effective than systematic sampling as $V_{st} : V_{sy} : V_{SRS}$ are in the ratio $(1/n) : 1 : n$
3. SRS is less efficient than stratified sampling while systematic sampling is equally efficient as stratified sampling for such a linear trend with $V_{st} : V_{sy} : V_{SRS}$ in the ratio $(1/n) : (1/n) : n$
4. SRS is less efficient than stratified sampling while systematic sampling is equally efficient as stratified sampling for such a linear trend with $V_{st} : V_{sy} : V_{SRS}$ in the ratio $1 : 1 : n$

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

110 1003590

4.0 1.00

Consider the following statements in the context of agricultural/ fisheries statistics system in India:

1. Official number of 'permanently settled states' of India, where there is no land revenue agency at the village level, in which crop area and land use statistics are collected through a scheme of sample surveys
2. As per year 2021-22 all-India estimates (in lakh tonnes), number of times inland fish production is approximately more than marine fish production
3. Official number of broad classifications of land use in India for the purpose of statistics collection

The numbers referred to in above statements (1), (2) and (3) are respectively

1. 4, 3, 13
2. 3, 4, 9
3. 3, 3, 9
4. 4, 4, 10

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

111 1003591

4.0 1.00

A population is sampled over two occasions for making current estimates of a character. On the first occasion a simple random sample of n units is taken. A random subsample of $m=n\lambda$ units is retained (matched) for use on a second occasion, on which another independent random sample of $u=n-m = n(1-\lambda)$ units is selected (unmatched with the first occasion). Denote by y and x the measurements on the second and first occasions respectively with ρ as their correlation. Ignoring finite population corrections, the variate is assumed to have same variance σ^2 on each occasion. Then if $\bar{M}_i$ ($i=1, 2$) are the estimators for estimating the population mean M_i on first and second occasions respectively, consider the following table:

Second occasion	Estimate	Variance	Weights
First occasion	$\bar{M}_1$	$V(\bar{M}_1) = \frac{\sigma^2}{n}$	
Unmatched part (based on u)	$\bar{M}_{2u}$	$V(\bar{M}_{2u})$	$W_{2u} = \frac{1}{V(\bar{M}_{2u})}$
Matched part (based on m)	$\bar{M}_{2m}$	$V(\bar{M}_{2m})$	$W_{2m} = \frac{1}{V(\bar{M}_{2m})}$

Then if given $\bar{M}_2 = \frac{W_{2u}\bar{M}_{2u} + W_{2m}\bar{M}_{2m}}{W_{2u} + W_{2m}}$ and its minimum variance as $V_{min}(\bar{M}_2) = \frac{\sigma^2}{n} \left(\frac{1}{2} + \sqrt{\frac{1-\rho}{2}} \right)$, the 'expression for $V(\bar{M}_2)$ ' and the 'condition for $V(\bar{M}_2)$ to be less than $V(\bar{M}_1)$ ' are respectively given by

Then if given $\bar{M}_2 = \frac{W_{2u}\bar{M}_{2u} + W_{2m}\bar{M}_{2m}}{W_{2u} + W_{2m}}$ and its minimum variance as $V_{min}(\bar{M}_2) = \frac{\sigma^2}{n} \left(\frac{1}{2} + \sqrt{\frac{1-\rho}{2}} \right)$, the 'expression for $V(\bar{M}_2)$ ' and the 'condition for $V(\bar{M}_2)$ to be less than $V(\bar{M}_1)$ ' are respectively given by

1. $V(\bar{M}_2) = \frac{V(W_{2u}) + V(W_{2m})}{W_{2u} + W_{2m}}$ and $\rho < (1/2)$
2. $V(\bar{M}_2) = \frac{1}{W_{2u} + W_{2m}}$ and $\rho < (1/2)$
3. $V(\bar{M}_2) = \frac{1}{W_{2u} + W_{2m}}$ and $\rho > (1/2)$
4. $V(\bar{M}_2) = \frac{V(W_{2u}) + V(W_{2m})}{W_{2u} + W_{2m}}$ and $\rho > (1/2)$

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

112 1003592

4.0 1.00

Consider three genotypes AA, Aa and aa under random mating. Let the genotypic frequencies be correspondingly (0.25, 0.10, 0.65). Then, assuming that parental gene frequencies in both sexes are same, the genotypic frequencies of the next generation are accordingly

1. (0.30, 0.00, 0.70)
2. (0.09, 0.42, 0.49)
3. (0.09, 0.10, 0.81)
4. (0.49, 0.09, 0.42)

A1 : 1

A2 : 2

A3 : 3

		A4 : 4		
Objective Question				
113	1003593	Consider a population in which initial gene frequencies differ in the two sexes. Under random mating, the Hardy-Weinberg equilibrium will 1. be attained in two generations 2. be attained in the next generation 3. never be attained 4. be attained only in the presence of mutation A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
Objective Question				
114	1003594	The product-moment correlation coefficient between grandparent and grand-child in a random mating population while considering a set up while deducing correlation between relatives, whose parents are uncorrelated, is 1. $1/4$ 2. $1/2$ 3. $3/4$ 4. $1/8$ A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
Objective Question				
115	1003595		4.0	1.00

Consider the following statements pertaining to crossbreeding and heterosis:

A. Heterosis is the extent to which the performance of a crossbred in one or more traits is better than the average performance of the two parents.

B. Crossbreeding are mating between animals of different breeds (or lines) from the same species usually done to produce offsprings with superior traits.

C. Heterosis is based on the phenomenon of dominance when the alleles of a locus are non-additive.

D. Heterosis is higher for characteristics of animals with a high heritability and lower for traits with a low heritability.

Choose the correct statements 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 only.

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

116	1003596	The ratio of additive genetic variance to phenotypic variance is termed as 1. Heritability in the broad sense 2. Heritability in the narrow sense 3. Repeatability 4. Genetic correlation A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
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Objective Question

117	1003597	While analysing genetic components of variance, if the additive genetic variance and the genotypic variance arising from a single locus came out to be 6.2208 and 7.1424 respectively, then the dominance variance is 1. 6.6816 2. 1.0745 3. 5.5539 4. 0.9216 A1 : 1	4.0	1.00
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		A2 : 2		
		A3 : 3		
		A4 : 4		
Objective Question				
118	1003598	The method in which the selection is made for one trait at a time in successive generations for improving several characters is called 1. Independent culling levels in multiple trait selection method 2. Selection index method 3. Phenotypic index method 4. Tandem selection method A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
Objective Question				
119	1003599	Data on reproductive output Y (i.e. number of eggs per female) on nine observations for each of the two groups (normal and previously stunted) of tilapia fish were available along with their corresponding mean weights (X). The objective was to determine whether stunting has any effect on reproductive output as compared to the normal group. It was observed that weight of females had an impact on reproductive output. A one way classification ANCOVA on Y taking X as a covariate was performed. Which of the following statements are correct: A. On the two groups of egg outputs, if suppose the usual t test for difference of two means showed that there was no significant difference in egg output between normal and stunted tilapia then ANCOVA results will also show that the groups are not significantly different with respect to egg outputs. B. The error degrees of freedom in the ANCOVA under consideration will be 16 C. On the two groups of egg outputs, if suppose the usual t test for difference of two means showed that there was no significant difference in egg output between normal and stunted tilapia then, it can happen that, ANCOVA results may show that the groups are significantly different with respect to egg outputs. D. The error degrees of freedom in the ANCOVA under consideration will be 15 Choose the correct statements from the options given below: 1. A and B only. 2. A and D only. 3. B and C only. 4. C and D only. A1 : 1 A2 : 2 A3 : 3	4.0	1.00

A4 : 4

Objective Question

120 1003600

4.0 1.00

From a population of size 50, a sample of size 15 is selected. Then the ratio of variance of sample mean under SRSWR with that of the variance of sample mean under SRSWOR while estimating population mean is

1. 1.54
2. 1.70
3. 1.40
4. 2.31

A1 : 1

A2 : 2

A3 : 3

A4 : 4