Andhra Pradesh State Council of Higher Education

Question Paper Name:	STATISTICS
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STATISTICS

Group Number :	1
Group Id :	62321736
Group Maximum Duration :	0
Group Minimum Duration :	180
Revisit allowed for view? :	No
Revisit allowed for edit? :	No
Break time:	0
Group Marks:	180
Revisit allowed for group Instructions? :	Yes
Maximum Instruction Time:	0
Minimum Instruction Time:	0

Teaching and Research Aptitude

Section Id :	62321771
Section Number :	1
Section type :	Online
Mandatory or Optional:	Mandatory
Number of Questions:	82
Number of Questions to be attempted:	82
Section Marks:	90
Display Number Panel:	Yes
Group All Questions:	No

Sub-Section Number:	1
Sub-Section Id:	623217211
Question Shuffling Allowed :	Yes

Question Number : 1 Question Id : 6232176336 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

A teacher meeting his students for the first time should

Options :

1. start teaching without caring interest

2. develop rapport with the students

3. give broad outline of the subject

4. develop rapport with the students and give broad outline of the subject

Question Number : 2 Question Id : 6232176337 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

All of the following statements regarding a teacher are correct except that he/she is.....

Options :

1. friend, guide and philosopher

2. the leader of the class

3. the facilitator for effective learning

4. pouring the knowledge what she/he knows

Question Number : 3 Question Id : 6232176338 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

The first and necessary step in the teaching is

Options :

1. organizing teaching-learning material

2. knowing the background of students

3. knowing the subject well

4. planning before hand

Question Number : 4 Question Id : 6232176339 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

The development of a student's personality is affected mostly by

Options :

1. teaching methods

2. subject-matter

3. relationship between teacher and student

4. student's knowledge

Question Number : 5 Question Id : 6232176340 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

The best method of teaching for different concepts is

Options :

1. Dolton method

2. Heuristic method

3. Lecture method

4. Personalized method

Question Number : 6 Question Id : 6232176341 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

Students can have direct experience in classroom teaching at the level of

Options :

1. Symbolic

2. Iconic

3. Enactive

4. Didactic

Question Number : 7 Question Id : 6232176342 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

If a teacher adopts religious teaching in the classroom, it amounts to

Options :

1. against the constitution

2. correct according to his religion

3. not against national spirit

4. not against the code of ethics

Question Number : 8 Question Id : 6232176343 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

If a student becomes unconscious suddenly in the classroom, what you do is

Options :

1. making arrangement to send him home

2. giving first-aid to him

3. report to the principal's office

4. contact the parents of the student

Question Number : 9 Question Id : 6232176344 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

Teacher's professionalism may be assessed in terms of all the following commitments except

Options :

1. commitment to the parents and community

2. commitment to the religion and caste

3. commitment to the work and student

4. commitment to colleagues and office staff

Question Number : 10 Question Id : 6232176345 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

A statistical hypothesis is

Options :

1. a statement reported to population parameter

2. a statement related to research problem

3. a statement made by principal investigator

4. a statement related to statistic

Question Number : 11 Question Id : 6232176346 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

In a Research Report, Research gap analysis comes

Options :

1. after literature survey

2. before literature survey

3. after collection of data

4. after the research methodology

Question Number : 12 Question Id : 6232176347 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

Review of literature from general to specific is called

Options :

1. Inductive

2. Deductive

3. Chronological

4. Overview

Question Number : 13 Question Id : 6232176348 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

Research design does not contain the following aspect.

Options :

1. The nature of data required

2. The type of data collection method

3. Type of techniques used for analysis

4. Need for the study

Question Number : 14 Question Id : 6232176349 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

A measure of internal consistency, that is how closely related a set of items are as a group is _____.

Options :

1. Chi square test

2. ANOVA

3. Cronbach's Alpha

4. Level of significance

Question Number : 15 Question Id : 6232176350 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

The probability rejecting H_0 when it is true is called

Options :

1. Type one error

2. Type two error

3. Level of significance

4. Confidence level

Question Number : 16 Question Id : 6232176351 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

The full form of DOI is

Options :

1. Digital Object Identifier

2. Digital Observation Identification

3. Digital Object Identity

4. Digital Order Identifier

Question Number : 17 Question Id : 6232176352 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

The following is not a citation style.

Options :

1. APA

2. MLA

3. Chicago/Turbian

4. Scopus

Question Number : 18 Question Id : 6232176353 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

The following is not included in the five ethics of research.

Options :

1. Informed consent

2. Respect for privacy

3. Proper citation to earlier works

4. Loyal to funding agency

Sub-Section Number:	2
Sub-Section Id:	623217212
Question Shuffling Allowed :	Yes

Question Id : 6232176354 Question Type : COMPREHENSION Sub Question Shuffling Allowed : Yes Group Comprehension Questions : No

Question Numbers : (19 to 27)

Question Label : Comprehension

Read the following passage and answer the questions given:

Our times seem poised to witness the resurgence of the romantic vision of human life, a view that underlines the importance of the spiritual by conceiving of life as a quest. In such a view, there are many obstacles and difficulties along the way, but if the seeker persists, then he or she will be rewarded by the union with a higher power or the spirit. In contrast the rationalist vision is sceptical of all higher powers and exalted aims of life and likes to show that all gods have clay feet. The romantic vision also emphasizes an intimate connection between human kind and universe, between self and not-self while the rationalist insists on an enduring separation between the two. He looks down at the romantic view as a scientifically wrong and philosophically confused reaction to the objective rift between mind and nature. For the rationalist, the romantic is engaged in a futile and regressive revolt against the 'bad news' of the Enlightenment: Separateness.

As a broader intellectual and social current, the romantic resurgence is more characteristic of Western societies than of most non-western ones where the romantic vision never lost its ascendancy over the rational. Or, to put it more accurately, the *Ur*-romantic vision of non-western societies generally remained oblivious of separateness and this differs from the Western post-enlightenment romantic sensibility which has been struggling to overcome the rift even as it has remained exquisitely aware of it.

Sub questions

Question Number : 19 Question Id : 6232176355 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical
Wrong Marks : 0

What has been our observation of contemporary reality?

Options :

1. Rise of postmodernism

2. Marxist ideology

3. Revival of romantic view of life

4. Democratic tendencies

Question Number : 20 Question Id : 6232176356 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

Which view challenges the spiritual seeker?

Options :

1. Life as a quest

2. Faith in one God

3. Belief in pantheon of gods

4. Life is absurd and has no meaning

Question Number : 21 Question Id : 6232176357 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

How does one define spirituality?

Options :

1. Prayer for forgiveness

2. Life after death

3. Sinless actions

4. Union with a higher spirit

Question Number : 22 Question Id : 6232176358 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

What do you understand by "all gods have clay feet"?

Options :

1. Idols are made of clay

2. Sceptical of all higher powers

3. Romantic view of gods

4. Gods are earthly

Question Number : 23 Question Id : 6232176359 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

What is the "bad news" of enlightenment for romantics?

Options :

1. Separation between the self and the non-self

2. Intimate connection between man and the world

3. Science and philosophy coming together

4. Mind, nature and soul as one

Question Number : 24 Question Id : 6232176360 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

What is the characteristic of resurgence of romantic vision?

Options :

1. Eastern societies

2. African societies

3. Western societies

4. The Middle East societies

Question Number : 25 Question Id : 6232176361 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

Which of the societies have never lost their romantic vision?

Options :

1. Western societies

2. The American societies

3. The European societies

4. Non-western societies

Question Number : 26 Question Id : 6232176362 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

Western post-romantic enlightenment is aware of the

Options :

1. importance of spirituality

2. rift between the rational and the romantic

3. existential dilemma

4. cult of irrationality

Question Number : 27 Question Id : 6232176363 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

What is the central concept of the prose passage?

Options :

1. Resurgence of Romantic vision

2. Intellectual aspiration

3. Lack of spirituality

4. Philosophical confusion

Sub-Section Number:	3
Sub-Section Id:	623217213
Question Shuffling Allowed :	Yes

Question Number : 28 Question Id : 6232176364 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

Which one of these must be avoidable for effective communication?

Options :

1. Politeness

2. Listening

3. Sharing of activity

4. Ambiguity

Question Number : 29 Question Id : 6232176365 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

According to Eric Ashby, the fourth revolution in communication is

Options :

1. Printing

2. Written word

3. Home school

4. Electronics

Question Number : 30 Question Id : 6232176366 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

‘Synatactics’ is relating to

Options :

1. principles of sounds

2. characteristics of language

3. rules of signs

4. construction of sentence

Question Number : 31 Question Id : 6232176367 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

‘Anxiety tension’ is a behaviour in communication comes under

Options :

1. Physical barrier

2. Psychological barrier

3. Technical barrier

4. Cultural barrier

Question Number : 32 Question Id : 6232176368 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

'Iconic Domain' in the Edgar Dales Cone of experience is related to

Options :

1. Learning by doing

2. Learning through observation

3. Learning through abstraction

4. Learning by experience

Question Number : 33 Question Id : 6232176369 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

The book 'Human Communication Theory – A comparative Essays' written by

Options :

1. T.R. Nelson

2. Edward Bono

3. Edward Berlo

4. Frank Dance

Question Number : 34 Question Id : 6232176370 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

'Semantics' is a major branch of Linguistics which says about the

Options :

1. Study of origin of language

2. Structure of language

3. Meaning of language

4. Difference in the languages

Question Number : 35 Question Id : 6232176371 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

Technological literacy is a skill referred to the field of

Options :

1. Industry

2. Education

3. Space science

4. Environment

Question Number : 36 Question Id : 6232176372 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

Student Information System (SIS) is used for the maintenance of

Options :

1. student response system

2. student data

3. student attendance

4. display of examination results

Question Number : 37 Question Id : 6232176373 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

What is the number that comes next in the sequence?

2, 10, 30, 56, _____.

Options :

1. 84

2. 72

3. 90

4. 100

Question Number : 38 Question Id : 6232176374 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

Which letters in the order will follow the blank spaces?

Z, X, V, T, R, _____, _____.

Options :

1. L, J

2. N, L

3. H, J

4. P, N

Question Number : 39 Question Id : 6232176375 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

If a : b = 2 : 3 and b : c = 7 : 9, then a : b : c =

Options :

1. 2 : 3 : 9

2. 2 : 7 : 9

3. 2 :21 : 9

4. 14 : 21 : 27

Question Number : 40 Question Id : 6232176376 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

If the sum of the squares of three positive numbers, which are in the ratio 2 : 3 : 4 is 725, then the sum of the numbers is

Options :

1. 45

2. 65

3. 75

4. 55

Question Number : 41 Question Id : 6232176377 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

The average of A, B, C is 60. The average of A and B is 65, then the value of C is _____.

Options :

1. 50

2. 60

3. 65

4. 55

Question Number : 42 Question Id : 6232176378 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

A's income is 12% more than that of B's income. Then B's income is less than A's income by

Options :

1. 12%

2. $10\frac{2}{3}\%$

3. $10\frac{5}{7}\%$

4. $15\frac{2}{3}\%$

Question Number : 43 Question Id : 6232176379 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

A man covers $1/4^{th}$ of his total journey by train and $2/3^{rd}$ by bus and the remaining 20 km by bullock cart. His total journey is _____ km.

Options :

1. 200

2. 240

3. 217

4. 320

Question Number : 44 Question Id : 6232176380 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

The average of x and y is 55 and the average of y and z is 45. Then z – x =

Options :

1. 10

2. 20

3. 15

4. –20

Question Number : 45 Question Id : 6232176381 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

An investiment of Rs X become Rs 3720/- in 4 years and it become Rs 4080/- in 6 years under simple interest. What is the value of X?

Options :

1. 2,500

2. 2,800

3. 3,000

4. 3,250

Sub-Section Number:	4
Sub-Section Id:	623217214
Question Shuffling Allowed :	No

Question Number : 46 Question Id : 6232176382 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

The words in the bottom row are related in the same way as the words in top row. Find the word and fill the blank.

Pallet, Easel, Brush

Text book, Lesson plan, _____.

Options :

1. Artist pen

2. Report card

3. Paint

4. Teacher's desk

Question Number : 47 Question Id : 6232176383 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

The words in the bottom row are related in the same way as the words in top row. Find the word and fill the blank.

Daisy, Flower, Plant

Bungalow, House, _____.

Options :

1. Building

2. Cottage

3. Apartment

4. City

Question Number : 48 Question Id : 6232176384 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

Sita is 8 years old. She has been asking her parents for a dog. Her parents have told her that they believe a dog would not be happy in an apartment, but they have given her permission to have a bird. Sita has not yet decided what kind of bird she would like to have. Then which of the following is correct.

Options :

1. Sita parents like birds better than the dogs

2. Sita does not like birds

3. Sita and her parents would like to move from the apartment

4. Sita and her parents live in an apartment

Question Number : 49 Question Id : 6232176385 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

The following statement and courses of action are given. Identify which course of action follows.

Statement: Severe drought is reported to have set in several parts of the country.

I. Government should immediately make arrangement for providing financial assistance to these affected.

II. Food, water and fodder should immediately be sent to all these areas to save the people and cattle.

Options :

1. Only I follows

2. Only II follows

3. Neither I nor II follows

4. Both I and II follows

Question Number : 50 Question Id : 6232176386 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

Rama is in the East of Raju and Raju is in the North of Ranga. Rao is in the South of Ranga then in which direction of Rama is to Rao?

Options :

1. South-East

2. South-West

3. North-East

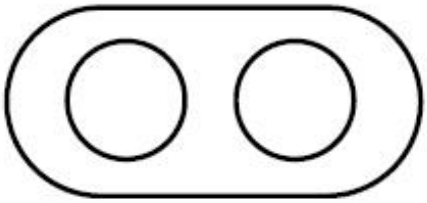
4. North-West

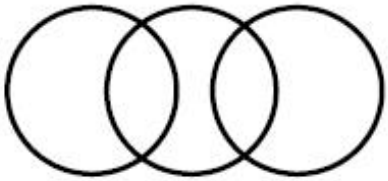
Question Number : 51 Question Id : 6232176387 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

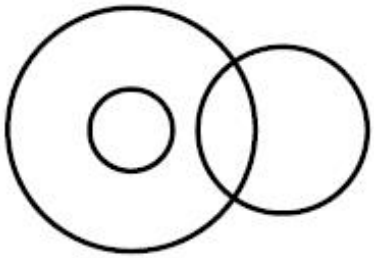
Wrong Marks : 0

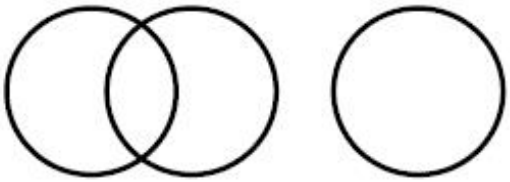
Which of the following diagram correctly represents lions, elephants and animals?

Options :

1. 

2. 

3. 

4. 

Question Number : 52 Question Id : 6232176388 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

A river always has.....

Options :

1. Boats

2. Delta

3. Fishes

4. Banks

Question Number : 53 Question Id : 6232176389 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

Appalakonda pointing a photograph said "I have no brother, and that man's father is my fathers son". Whose photograph was it?

Options :

1. His father

2. His son

3. His nephew

4. His own

Question Number : 54 Question Id : 6232176390 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

How many letter pairs in the word "PARADISE" one such pairs which contain the same number of letters between them as they have in the English alphabets ?

Options :

1. 2

2. 4

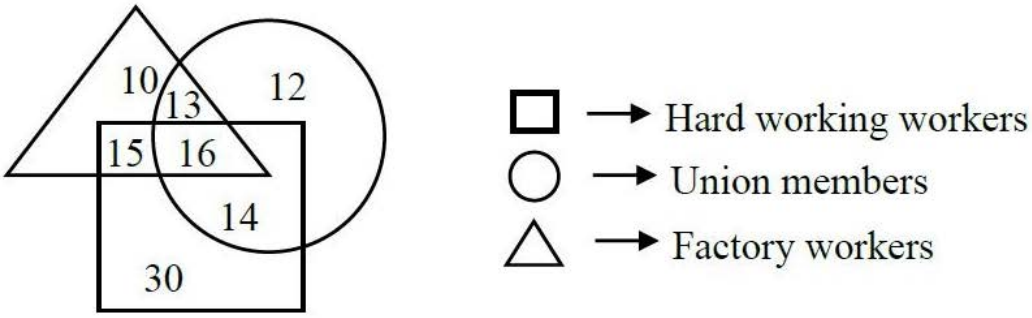
3. 3

4. 1

Question Number : 55 Question Id : 6232176391 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

Study the following figure carefully and answer the question given below.



The number of hard working factory workers who are also the members of the union is

Options :

1. 15

2. 14

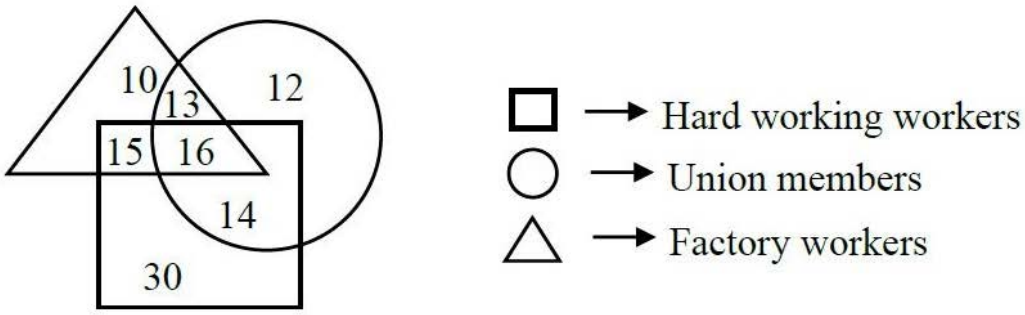
3. 30

4. 16

Question Number : 56 Question Id : 6232176392 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

Study the following figure carefully and answer the question given below.



The number of factory workers who are hardworking but not the members of the union, is

Options :

1. 31

2. 45

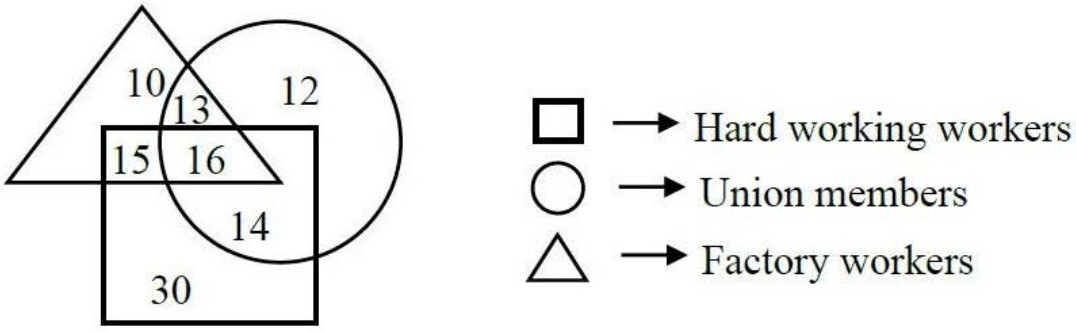
3. 15

4. 16

Question Number : 57 Question Id : 6232176393 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

Study the following figure carefully and answer the question given below.



The number of union members who are working in factory and are not hardworking is

Options :

1. 13

2. 12

3. 14

4. 16

Question Number : 58 Question Id : 6232176394 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

The following tabular statement represents the performance of six students S_1, S_2, S_3, S_4, S_5 and S_6 in an examination of various subjects as indicated. Study it carefully and answer the question below.

Subject / Student	Maths (Total marks 200)	Physics (Total marks 100)	Chemistry (Total marks 100)	English (Total marks 100)	General Education (Total marks 100)
S_1	184	72	85	85	57
S_2	140	80	81	75	84
S_3	131	74	90	81	87
S_4	195	68	76	96	91
S_5	138	78	91	72	81
S_6	165	82	93	60	76

The two students who got equal number of marks in all the subjects put together are

Options :

1. S_1 and S_3

2. S_3 and S_5

3. S_1 and S_5

4. S_2 and S_5

Question Number : 59 Question Id : 6232176395 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

The following tabular statement represents the performance of six students S_1, S_2, S_3, S_4, S_5 and S_6 in an examination of various subjects as indicated. Study it carefully and answer the question below.

Subject / Student	Maths (Total marks 200)	Physics (Total marks 100)	Chemistry (Total marks 100)	English (Total marks 100)	General Education (Total marks 100)
S_1	184	72	85	85	57
S_2	140	80	81	75	84
S_3	131	74	90	81	87
S_4	195	68	76	96	91
S_5	138	78	91	72	81
S_6	165	82	93	60	76

The percentage of marks obtained by the student S_2 in all the subject put together is

Options :

1. 92

2. $85\frac{2}{3}$

3. $76\frac{2}{3}$

4. $80\frac{1}{3}$

Question Number : 60 Question Id : 6232176396 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

The following tabular statement represents the performance of six students S_1, S_2, S_3, S_4, S_5 and S_6 in an examination of various subjects as indicated. Study it carefully and answer the question below.

Subject / Student	Maths (Total marks 200)	Physics (Total marks 100)	Chemistry (Total marks 100)	English (Total marks 100)	General Education (Total marks 100)
S_1	184	72	85	85	57
S_2	140	80	81	75	84
S_3	131	74	90	81	87
S_4	195	68	76	96	91
S_5	138	78	91	72	81
S_6	165	82	93	60	76

The student who got the highest number of marks in basic sciences, i.e., Maths, Physics and Chemistry.

Options :

1. S_6

2. S_1

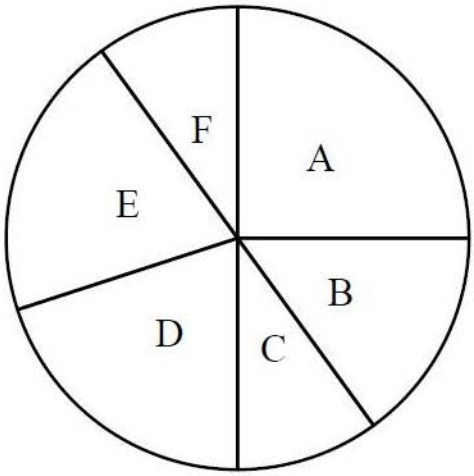
3. S_4

4. S_5

Question Number : 61 Question Id : 6232176397 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

The following pie chart indicates the monthly budget of a family.



A	Food 25%
B	Clothing 15%
C	Conveyance 10%
D	House rent
E	Health 20%
F	Saving 10%

Based on the above information, answer the question below.

If the total monthly income of the family is ₹ 25,000, then how much amount is spent on house rent per month, in rupees?

Options :

1. 2,500

2. 3,000

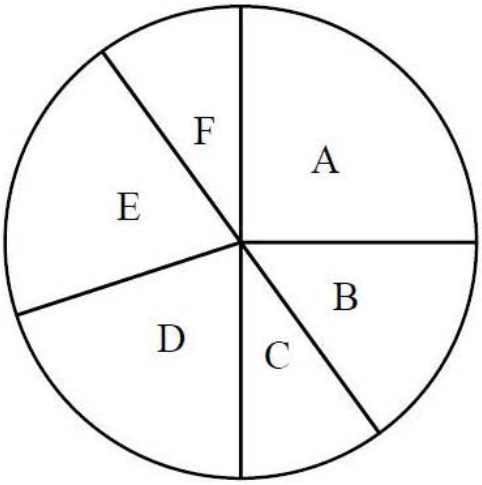
3. 4,500

4. 5,000

Question Number : 62 Question Id : 6232176398 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

The following pie chart indicates the monthly budget of a family.



A	Food 25%
B	Clothing 15%
C	Conveyance 10%
D	House rent
E	Health 20%
F	Saving 10%

Based on the above information, answer the question below.

If the annual income of the family is ₹ 4,20,000, then the total amount spent in rupees, per month on clothing and house rent, put-together is

Options :

1. 12,000

2. 12,250

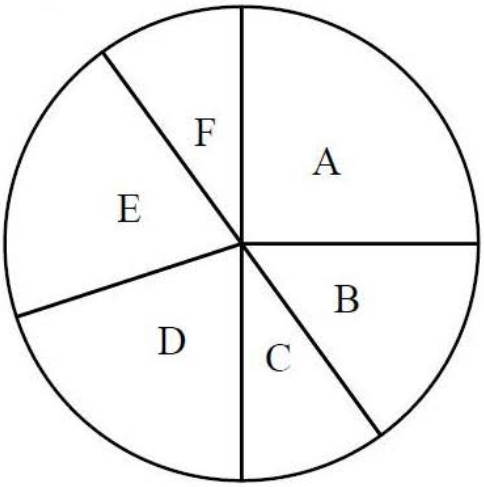
3. 9,500

4. 11,500

Question Number : 63 Question Id : 6232176399 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

The following pie chart indicates the monthly budget of a family.



A	Food 25%
B	Clothing 15%
C	Conveyance 10%
D	House rent
E	Health 20%
F	Saving 10%

Based on the above information, answer the question below.

If the half yearly expenditure on clothing by the family is 18,396 rupees, then the total monthly income of that family will be, in rupees

Options :

1. 40,440

2. 45,000

3. 52,300

4. 48,450

Sub-Section Number: 5
Sub-Section Id: 623217215
Question Shuffling Allowed : Yes

Question Number : 64 Question Id : 6232176400 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical
Wrong Marks : 0

Which of the following is not true about RAM?

Options :

1. RAM is a temporary storage area

2. RAM is volatile

3. RAM is the same as hard disk storage

4. Information stored in the RAM is gone when you turns the computer off

Question Number : 65 Question Id : 6232176401 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

The following is not considered as secondary storage.

Options :

1. Floppy disk

2. Optical disk

3. Hard disk

4. Flash disk

Question Number : 66 Question Id : 6232176402 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

The full form of WAN is

Options :

1. Wide Area Network

2. Wide Antenna Network

3. World Area Network

4. Wide Arial Network

Question Number : 67 Question Id : 6232176403 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

What is the name of web page address?

Options :

1. Directory

2. Protocol

3. Domain

4. URL

Question Number : 68 Question Id : 6232176404 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

NMEICT stands for

Options :

1. National Mission on Education through ICT

2. National Mission on E-governance through ICT

3. National Mission on E-learning through ICT

4. National Mission on Evaluation through ICT

Question Number : 69 Question Id : 6232176405 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

Which one of the following is not a search engine?

Options :

1. Google

2. Chrome

3. Yahoo

4. Bing

Question Number : 70 Question Id : 6232176406 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

A compiler is a software which converts

Options :

1. characters to bits

2. high level language to machine language

3. machine language to high level language

4. words to bits

Question Number : 71 Question Id : 6232176407 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

Computer virus is a

Options :

1. Software

2. Hardware

3. Bacteria

4. Firewall

Question Number : 72 Question Id : 6232176408 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

The following is not an initiative of E-governance.

Options :

1. G2G

2. G2C

3. G2B

4. G2D

Question Number : 73 Question Id : 6232176409 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

The horizontal transport of any atmospheric property by the wind is

Options :

1. Advenction

2. Radiation

3. Conduction

4. Reflection

Question Number : 74 Question Id : 6232176410 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

The chemical which causes ozone depletion is

Options :

1. Chloro Fluro Carbons

2. Dioxins

3. Polyphenols

4. Rayon

Question Number : 75 Question Id : 6232176411 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

The movement “Beej Bacho Andolan” was for the conservation of

Options :

1. Trees

2. Shrubs

3. Crops

4. Dogs

Question Number : 76 Question Id : 6232176412 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

The source of energy in an ecosystem is

Options :

1. D.N.A.

2. R.N.A.

3. Sunlight

4. Water

Question Number : 77 Question Id : 6232176413 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

Greenhouse effect is caused by

Options :

1. increase in O_2

2. increase in CO_2

3. decrease in O_2

4. decrease in CO_2

Question Number : 78 Question Id : 6232176414 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

Normally,rain water is slightly

Options :

1. pure

2. acidic

3. toxic

4. basic

Question Number : 79 Question Id : 6232176415 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

The thickness of ozone layer is measured in

Options :

1. Mn

2. DU

3. Nm

4. Hg

Question Number : 80 Question Id : 6232176416 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

The full form of CTBT is

Options :

1. Comprehensive Nuclear Test Ban Treaty

2. Comprehensive Test Bank Trust

3. Comprehensive Tree cutting Ban Treaty

4. Comprehensive Test Based Temperature

Question Number : 81 Question Id : 6232176417 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

In an ecosystem,bacteria are

Options :

1. producers

2. consumers

3. decomposers

4. suppliers

Question Number : 82 Question Id : 6232176418 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

Which of the following committee first talked about the relationship between academic work and productive work?

Options :

1. Sargent Committee

2. Khere Committee

3. Zakir Hussian Committee

4. Jnanam Committee

Question Number : 83 Question Id : 6232176419 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

Ethic and aesthetics are components of

Options :

1. Ontology

2. Cosmology

3. Epistemology

4. Axiology

Question Number : 84 Question Id : 6232176420 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

Another name for Basic Education proposed by M.K. Gandhi is

Options :

1. Wardha Education plan

2. Free and Compulsory Education

3. Vocational Education

4. Primary Education

Question Number : 85 Question Id : 6232176421 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

The launch of satellite channel by IGNOU for technological Education for the growth and development of Distance Education is called

Options :

1. Chandrayana-1

2. Eklavya channel

3. PSLV-3

4. Gnandarshan channel

Question Number : 86 Question Id : 6232176422 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

National Assessment and Accreditation Council (NAAC) is an autonomous institution established under the aegies of

Options :

1. UGC

2. ICSSR

3. CSIR

4. AICTE

Question Number : 87 Question Id : 6232176423 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

Autonomy in Higher Education implies freedom in

Options :

1. Policy-making

2. Curriculum development

3. Financial management

Administration

4.

Question Number : 88 Question Id : 6232176424 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

The recommendation of National Knowledge Commission is to fulfil the aim of to

Options :

create more teaching jobs

1.

replace the private managed higher education by public institution

2.

enable students to move from rural to urban

3.

ensure to increase number of student enrolment in higher education

4.

Question Number : 89 Question Id : 6232176425 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

Which among the following is NOT a Central University

Options :

Nalanda University

1.

Assam University

2.

Kurukshetra University

3.

Guru Grhasidas Vishwavidyalaya

4.

Question Number : 90 Question Id : 6232176426 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

India's first Defence University was established in the state of

Options :

1. Andhra Pradesh

2. Punjab

3. Haryana

4. Uttara Pradesh

STATISTICS

Section Id :	62321772
Section Number :	2
Section type :	Online
Mandatory or Optional:	Mandatory
Number of Questions:	90
Number of Questions to be attempted:	90
Section Marks:	90
Display Number Panel:	Yes
Group All Questions:	No

Sub-Section Number:	1
Sub-Section Id:	623217216
Question Shuffling Allowed :	Yes

Question Number : 91 Question Id : 6232176427 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

Let $P = \begin{pmatrix} 1 & 2 & 3 & 4 & 5 & 1 \\ 2 & 3 & 4 & 8 & 6 & 3 \\ 2 & 4 & 6 & 7 & 10 & 3 \\ 4 & 7 & 10 & 14 & 16 & 7 \end{pmatrix}$ then the rank of the matrix P is

Options :

1. 1

2. 2

3. 3

4. 4

Question Number : 92 Question Id : 6232176428 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

Consider the following system of linear equations: x+y+z=3; x+az=b; y+2z=3. This system has infinite number of solutions if _____

Options :

1. $a=-1,b=0$

2. $a=1,b=2$

3. $a=0,b=1$

4. $a=-1,b=1$

Question Number : 93 Question Id : 6232176429 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

Let $P=\begin{pmatrix} 1 & 0 & 1+x & 1+x \\ 0 & 1 & 1 & 1 \\ 1 & 1+x & 0 & 1+x \\ 1 & 1+x & 1+x & 0 \end{pmatrix}$ then the determinant of matrix P is

Options :

1. $3(1+x)^3$

2. $3(x+1)^2$

3. $3(1+x)$

4. $(1+x)(2x+3)$

Question Number : 94 Question Id : 6232176430 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

Let $M = \begin{pmatrix} 3 & 4 & 0 & 0 & 0 \\ 2 & 5 & 0 & 0 & 0 \\ 0 & 9 & 2 & 0 & 0 \\ 0 & 5 & 0 & 6 & 7 \\ 0 & 0 & 4 & 3 & 4 \end{pmatrix}$ then $|M|$ is

Options :

1. 42

2. 40

3. 60

4. 64

Question Number : 95 Question Id : 6232176431 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

Let f(x)= (x-1) (x-2) (x-3) (x-4) (x-5); $-\infty<x<+\infty$ then the number of distinct real roots of the equation $\frac{d}{dx} f(x) = 0$ is exactly

Options :

1. 5

2. 2

3. 3

4. 4

Question Number : 96 Question Id : 6232176432 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

Which of the following statement is true for the function f(x)=|x-1|

Options :

1. f is not differentiable at x=0 and x=1

2. f is differentiable at x=0 but not differentiable at x=1

3. f is not differentiable at x=0 but differentiable at x=1

4. f is differentiable at x=0 and x=1

Question Number : 97 Question Id : 6232176433 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

Let X be a random variable having the probability density function

$$f(x, x_0, \alpha) = \begin{cases} \dfrac{\alpha x_0^{\alpha}}{x^{\alpha+1}}, if\ x > x_0 \\ 0, \quad if\ x \le x_0 \end{cases}$$ where $\alpha>0$, $x_0>0$, If $Y=\ln(X/x_0)$ then $P(Y>3)$ is equal to

Options :

1. $e^{-3\alpha x_0}$

2. $1- e^{-3\alpha x_0}$

3. $e^{-3\alpha}$

4. $1-e^{-3\alpha}$

Question Number : 98 Question Id : 6232176434 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

Let $T:\mathbb{R}^3 \to \mathbb{R}^2$ be a linear transformation defined by T(x,y,z)=(x+y,x-z). Then the dimension of the null space of T is

Options :

1. 1

2. 2

3. 3

4. 0

Question Number : 99 Question Id : 6232176435 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

consider the following series $S_1 = \sum_{k=1}^{\infty} \frac{1}{(k+1)(k+3)}$, $S_2 = \sum_{k=1}^{\infty} \frac{1}{\sqrt{k+1}\sqrt{k+3}}$ then

Options :

1. Both S_1 and S_2 converge

2. S_1 diverges and S_2 converges

3. S_1 converges and S_2 diverges

4. Both S_1 and S_2 diverge

Question Number : 100 Question Id : 6232176436 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

The area of the region enclosed by the curve $y=x^2$ and the straight line $x+y=2$ is

Options :

1. 1

2. 27/2

3. 9/2

4. 9

Question Number : 101 Question Id : 6232176437 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

Suppose that $\{x_n\}$ is a sequence of real numbers satisfying the following. For every $\varepsilon>0$, there exists n_0 such that $|x_{n+1}-x_n|<\varepsilon \forall n \geq n_0$. then the sequence $\{x_n\}$ is

Options :

1. Bounded but not necessarily Cauchy

2. Cauchy but not necessarily bounded

3. Convergent

4. Not necessarily bounded

Question Number : 102 Question Id : 6232176438 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

Let A be an nxn complex matrix. Assume that A is self-adjoint and let B denote the inverse of $A+U_n$. Then all eigen values of $(A-U_n)B$ are

Options :

1. purely imaginary

2. of modulus one

3. real

4. of modulus <1

Question Number : 103 Question Id : 6232176439 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

Let $\{a_n\}_{n\geq 1}$ and $\{b_n\}_{n\geq 1}$ be two convergent sequences of real numbers. For $n \geq 1$, define $u_n=\max\{a_n,b_n\}$ and $v_n=\min\{a_n,b_n\}$. Then

Options :

1. Neither $\{u_n\}_{n\geq 1}$ nor $\{v_n\}_{n\geq 1}$ converges

2. $\{u_n\}_{n\geq 1}$ converges but $\{v_n\}_{n\geq 1}$ does not converges

3. both $\{u_n\}_{n\geq 1}$ and $\{v_n\}_{n\geq 1}$ converges

4. $\{u_n\}_{n\geq 1}$ does not converges but $\{v_n\}_{n\geq 1}$ converges

Question Number : 104 Question Id : 6232176440 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

Let $M = \begin{bmatrix} 1/4 & 3/4 \\ 3/5 & 2/5 \end{bmatrix}$, If **I** is 2x2 identity matrix and **O** is 2x2 zero matrix, then which of the following is correct

Options :

1. $20M^2-13M+7\mathbf{I}=\mathbf{O}$

2. $20M^2-13M-7\mathbf{I}=\mathbf{O}$

3. $20M^2+13M+7\mathbf{I}=\mathbf{O}$

4. $20M^2+13M-7\mathbf{I}=\mathbf{O}$

Question Number : 105 Question Id : 6232176441 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

Let $f:[-1,1] \to \mathbb{R}$ be defined by $f(x) = \dfrac{x^2 + [\sin \pi x]}{1+|x|}$, where $[y]$ denotes the greatest integer less than or equal to y. Then

Options :

1. f is continuous at -1/2,0,1

2. f is discontinuous at -1,0,1/2

3. f is discontinuous at -1,-1/2,0,1/2

4. f is continuous everywhere except at 0

Question Number : 106 Question Id : 6232176442 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

Let $f, g: \mathbb{R} \to \mathbb{R}$ be defined by $f(x) = x^2 - \frac{\cos x}{2}, f(x) = \frac{x \sin x}{2}$

Then which of the following is true

Options :

1. $f(x)=g(x)$ for more than two values of x

2. $f(x)\neq g(x)$, for all x in $\mathbb{R}$

3. $f(x)=g(x)$, for exactly one value of x

4. $f(x)=g(x)$ for exactly two values of x

Question Number : 107 Question Id : 6232176443 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

Consider the domain $D = \{(x, y) \in \mathbb{R}^2 : x \leq y\}$ and the function $h : D \to \mathbb{R}$ defined by $h((x, y)) = (x-2)^4 + (y-1)^4$, $(x, y) \in D$. Then the minimum value of h on D equals

Options :

1. $1/2$

2. $1/4$

3. $1/8$

4. $1/16$

Question Number : 108 Question Id : 6232176444 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

Let $f:[0,\pi/2]\to\mathbb{R}$ be defined as $f(x)=\alpha x+\beta\sin x$ where $\alpha,\beta\in\mathbb{R}$ Let f have a local minimum at $x=\pi/4$ with $f\left(\frac{\pi}{4}\right)=\frac{\pi-4}{4\sqrt{2}}$. Then $8\sqrt{2}\alpha+4\beta$ equals

Options :

1. 2

2. 4

3. 8

4. 16

Question Number : 109 Question Id : 6232176445 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

Suppose $\{a_n\},\{b_n\}$ are sequences such that $a_n>0$ and $b_n>0$ for all $n\geq 1$. Given that $\sum a_n$ converges and $\sum b_n$ diverges, which of the following statements is (are) necessarily False?

(i) $\sum(a_n+b_n)$ converges, (ii) $\sum(a_n/b_n)$ converges, (iii) $\sum(b_n/a_n)$ converges, (iv) $\sum(a_nb_n)$ converges,

Options :

1. (i) & (ii)

2. (ii) & (iii)

3. (iii) & (iv)

4. (i) & (iii)

Question Number : 110 Question Id : 6232176446 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

Let $\{a_n\}_{n\geq 1}$ and $\{b_n\}_{n\geq 1}$ be two sequences of real numbers such that $\{a_n\}_{n\geq 1}$ is increasing and $\{b_n\}_{n\geq 1}$ is decreasing. Under which of the following conditions, the sequence $\{a_n + b_n\}_{n\geq 1}$ is always convergent? (i) $\{a_n\}_{n\geq 1}$ and $\{b_n\}_{n\geq 1}$ are bounded sequences; (ii) sequence $\{a_n\}_{n\geq 1}$ is bounded below and sequence $\{b_n\}_{n\geq 1}$ is bounded above; (iii) sequence $\{a_n\}_{n\geq 1}$ is bounded above and sequence $\{b_n\}_{n\geq 1}$ is bounded below; (iv) $a_n \to \infty$ and $b_n \to -\infty$

Options :

1. (i) & (ii)

2. (i) & (iii)

3. (i) & (iv)

4. (ii) & (iii)

Question Number : 111 Question Id : 6232176447 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

Let f: $\mathbb{R} \to \mathbb{R}$. Define $g : \mathbb{R} \to \mathbb{R}$ by $g(x)=f(x)(f(x)+f(-x))$ then which of the following are correct options, (i) g is even for all f; (ii) g is odd for all f ; (iii) g is even if f is even; (iv) g is even if f is odd

Options :

1. (i),(ii) & (iv)

2. (i), (ii) & (iii)

3. (iii) & (iv)

4. (ii) & (iv)

Question Number : 112 Question Id : 6232176448 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

For two non zero real numbers a and b, consider the system of linear equations $\begin{bmatrix} a & b \\ b & a \end{bmatrix}\begin{bmatrix} x \\ y \end{bmatrix}=\begin{bmatrix} b/2 \\ a/2 \end{bmatrix}$ which of the following statement(s) is (are) true. (i) If $a = b$, the solutions of the system lie on the line $x+y = 1/2$; (ii) If $a = -b$, the solutions of the system lie on the line $y-x = 1/2$; (iii) If $a \neq \pm b$, the system has no solution; (iv) If $a \neq \pm b$, the system has a unique solution;

Options :

1. (i),(ii) & (iv)

2. (i), (ii) & (iii)

3. (iii) & (iv)

4. (ii) & (iv)

Question Number : 113 Question Id : 6232176449 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

Suppose X and Y are independent and identically distributed random variables with finite variance σ^2, which of the following expression(s) is (are) equal to σ^2?

(i) $E(X^2)-(E(Y))^2$; (ii) $E\left(\frac{X+Y}{2}\right)^2-\left(E\left(\frac{X+Y}{2}\right)\right)^2$; (iii) $\frac{1}{2}E(X-Y)^2$; (iv) $\min_{a\in\mathbb{R}} E(X-a)^2$

Options :

1. (i),(ii) & (iv)

2. (i), (ii) & (iii)

3. (i), (iii) & (iv)

4. (ii),(iii) & (iv)

Question Number : 114 Question Id : 6232176450 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

The following are the data of four cricket players having their batting score in different innings. The name of the player and their scores are given against them. P_1:23,25,26,28,32,21; P_2:12,34,25,19,27,32; P_3:10,27,46,74,63,37; P_4:36,24,56,26,37,28; Then, what is the order of the player from more consistent to less consistent?

Options :

1. P_1, P_2, P_3, P_4

2. P_1, P_2, P_4, P_3

3. P_4, P_3, P_2, P_1

4. P_1, P_4, P_3, P_2

Question Number : 115 Question Id : 6232176451 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

If the values of a variate are a, ar, ar^2, ar^3, . , . , ……., ar^{n-1} each with frequency 1, then the values (i) $\frac{an(1-r)r^{(n-1)}}{(1-r^n)}$; (ii) $\frac{a(1-r^n)}{n(1-r)}$; and (iii) $ar^{(n-1)/2}$ are respectively equal to – of the variate

Options :

1. AM, GM and HM

2. GM, HM and AM

3. HM, AM and GM

4. AM, HM and GM

Question Number : 116 Question Id : 6232176452 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

There are two parts of examinations namely A and B in a subject. They are evaluated out of 30 and 70 marks, respectively. In order to pass the course, the student has to get minimum of 40% in total and a minimum of 40% in Part-B. If the following shows the scores of 4 students, then who are the students passed in the total subject.

Student's Name:	S1	S2	S3	S4
Score in Part-A:	12	10	16	05
Score in Part-B:	28	29	27	29

Options :

1. S1, S3

2. S1,S2, S4

3. S1, S2

4. S1

Question Number : 117 Question Id : 6232176453 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

What are total number of probability conditions in pair wise independence and mutual independence of 7 events of a sample space?

Options :

1. 28 and 128

2. 120 and 28

3. 21 and 120

4. 120 and 21

Question Number : 118 Question Id : 6232176454 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

Let X be a continuous random variable with the probability density function $f(x) = \frac{1}{(2+x^2)^{3/2}}, x \in \mathbb{R}$ then $E(X^2)$

Options :

1. Equals 2

2. Equals 1

3. Equals 0

4. does not exist

Question Number : 119 Question Id : 6232176455 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

Let X and Y be two independent N(0,1) random variables. Then $P(0<X^2+Y^2<4)$ equals to

Options :

1. $1-e^{-2}$

2. $1-e^{-4}$

3. $1-e^{-1}$

e^{-2}

4.

Question Number : 120 Question Id : 6232176456 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

If m things are distributed among 'a' boys and 'b' girls then the probability of receiving odd number of things by boys is

Options :

$$\frac{(b+a)^m-(b-a)^m}{2(b+a)^m}$$

1.

$$\frac{(b+a)^m+(b-a)^m}{(b+a)^m}$$

2.

$$\frac{(b+a)^m+(b-a)^m}{2}$$

3.

$$\frac{(b+a)^m-(b-a)^{m-1}}{(b+a)^{m+1}}$$

4.

Question Number : 121 Question Id : 6232176457 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

Among the population 60% are employees, of these 10% are graduates. Of the non employees 80% are graduates. What are the probabilities of selecting a randomly chosen person from the population is a graduate; and he is neither employee nor graduate

Options :

1. 1/20, 3/50

2. 13/50, 4/50

3. .19/50, 4/50

4. 5/60,4/50

Question Number : 122 Question Id : 6232176458 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

An Institute purchase laptops from either vendor V1 or Vendor V2 with equal probability. The life times (in years) of laptops from vendor V1 have a U(0,4) distribution, and the lifetimes of laptops from vendor V2 have an Exp(1/2) distribution. If a randomly selected laptop in the institute has life time more than two years, then the probability that it was supplied by vendor V2 is

Options :

1. $\frac{2}{2+e}$

2. $\frac{1}{1+e}$

3. $\frac{1}{1+e^{-1}}$

4. $\frac{2}{2+e^{-1}}$

Question Number : 123 Question Id : 6232176459 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

Two lovers have consent of meeting in a park between 5PM and 6 PM with a condition of waiting up to 10 minutes from their arrival time. What is the chance that they will meet in the park by assuming the chance of their arrivals to the park is uniformly distributed throughout the hour.

Options :

1. 11/14

2. 11/36

3. 11/18

4. 9/36

Question Number : 124 Question Id : 6232176460 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

Write the suitable conclusion from the following information. (i) M.G.F. may not exists though all the moments exists; (ii) Though M.G.F. exist, yet it may not generate the moments; (iii) If the M.G.F. of two probability distributions are same then both the distributions should have the same p.d.f; (iv) Every probability distribution should have the M.G.F

Options :

1. (i),(ii) are True but (iii) and (iv) False

2. .(i),(ii) are False but (iii) and (iv) True

3. (i),(ii) and (iii) are True but (iv) is False

4. (i),(ii) and (iii) are False but (iv) is True

Question Number : 125 Question Id : 6232176461 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

Choose the correct matching options

Set-1	Set-2
I. If g(X) is a non-negative function of a random variable X , then for every k>0, the inequality denoted as $p\{g(X) \geq k\} \leq \frac{E\{g(x)\}}{k}$	1. Cauchy-Schwartz
II. If X is a random variable and for any real number k>0, then the in equality denoted as $p\{\|X)\|^r \geq k^r\} \leq \frac{E\|X\|^r}{k^r}$	2. Chebychev's
III. If X is a random variable with mean μ and Variance σ^2 and an arbitrary constant k>0, then the inequality $P\{\|X-\mu\| \geq c\} \leq \frac{\sigma^2}{c^2}$ or $P\{\|X-\mu\| < c\} \geq 1-\frac{\sigma^2}{c^2}$	3. Bienayme-Chebychev"s
IV. If X and Y are random variables taking real values, such that $E(XY)^2 \leq E(X^2)E(Y^2)$	4. Markov's

Options :

1. I-3,II-4,III-2,IV-1

2. I-4,II-2,III-1,IV-3

3. I-2,II-3,III-1,IV-4

4. I-1,II-2,III-3,IV-4

Question Number : 126 Question Id : 6232176462 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

Two distributions with p.d.f.'s $f_1(.)$ and $f_2(.)$ to be identical is that their characteristic functions $\phi_1(t)$ and $\phi_2(t)$ are identical is a condition of

Options :

1. Not Necessary but sufficient

Neither necessary nor Sufficient

2.

Necessary & Sufficient

3.

Necessary but not sufficient

4.

Question Number : 127 Question Id : 6232176463 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

Choose the correct matching options

Set-1	Set-2
I. Probability Generating Function	1. Central Moments
II. Moment Generating Function of Deviations with Origin	2. Raw Moments
III. Moment Generating Function of Deviations with Mean	3. Unique Properties
IV. Characteristic Function	4. Factorial Moments

Options :

I-3,II-4,III-2,IV-1

1.

I-4,II-2,III-1,IV-3

2.

I-2,II-3,III-1,IV-4

3.

I-1,II-2,III-3,IV-4

4.

Question Number : 128 Question Id : 6232176464 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

Choose the correct matching options

Set-1	Set-2
I. If X_i's are i.i.d. r.v.s, the only condition necessary for the law of large numbers to hold is $E(X_i)$ should exist	1. Levy
II. The law of large numbers representing $\frac{x}{n} \xrightarrow{p} p$ as $n \to \infty$	2. Hall- Bray
III. If $F_n(x) \to F(x)$, then the corresponding sequence of the characteristic functions $\phi_1(t)$ of $F_n(x)$ converges to the characteristic function $\phi_1(t)$ of F at every point 't'	3. Bernoulli
IV. If the sequence of distribution functions $\{F_n(x)\}$ converges to the distribution function F(x) at all the points of continuity of the later and g(x) is bounded continuous function over the line $R^1(-\infty,+\infty)$, then $\lim_{n\to\infty} \int_{-\infty}^{\infty} g(x)dF_n(x) = \int_{-\infty}^{\infty} g(x)dF(x)$	4. Chebychev

Options :

1. I-3,II-4,III-2,IV-1

2. I-4,II-3,III-2,IV-1

3. I-2,II-3,III-1,IV-4

4. I-1,II-2,III-3,IV-4

Question Number : 129 Question Id : 6232176465 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

The weak law of large numbers for i.i.d. random variables become, $P\left\{\left|\frac{X_1+X_2+.....X_n}{n} - \mu\right| < \varepsilon\right\} \geq 1-\eta$ for all n>0, it further become $P\left\{\left|\bar{x}_n - \mu\right| < \varepsilon\right\} \to$ ___, as $n \to \infty$; and $P\left\{\left|\bar{x}_n - \mu\right| \geq \varepsilon\right\} \to$ ___, as $n \to \infty$

Options :

1. 0,0

2. $1,1$

3. $1,0$

4. $0,1$

Question Number : 130 Question Id : 6232176466 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

A box contain 2^n tickets among which $\binom{n}{i}$ tickets bares the number 'I' ; I=0, 1,2,…., n. A group of 'm' tickets is drawn. Then the expectation of sum of the number is =

Options :

1. $\frac{m+n}{2}$

2. $\frac{m/n}{2}$

3. $\frac{m-n}{2}$

4. $\frac{mn}{2}$

Question Number : 131 Question Id : 6232176467 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

A box contains ‘a’ white balls and ‘b’ black balls. If ‘c’ balls are drawn in an experiment from the box, then what are the expected numbers of Black and White balls respectively among the c balls?

Options :

1. $c\left(\frac{a}{a+b}\right), \quad c\left(\frac{b}{a+b}\right)$

2. $c\left(\frac{a-b}{a+b}\right), c\left(\frac{b-a}{a+b}\right)$

3. $c\left(\frac{b-a}{a+b}\right), c\left(\frac{a-b}{a+b}\right)$

4. $c\left(\frac{b}{a+b}\right), \quad c\left(\frac{a}{a+b}\right)$

Question Number : 132 Question Id : 6232176468 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

A lock of a room is opened with one of the keys in a bunch of ‘n’ keys. What is expected number of trails by without replacement (if the keys once used are not used in the next trails) and with replacement (if the keys once used are used in the next trails)

Options :

1. n(n-1)/2,n/2

2. (n+1)/2, n

3. (n-1)/2, n+1/2

$n(n+1)/2,n$

4.

Question Number : 133 Question Id : 6232176469 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

If the bivariate probability distribution is as given below, then pick the correct matching regarding the means and variances

		X		
		-1	0	1
Y	-1	0	0.1	0.1
	0	0.2	0.2	0.2
	1	0	0.1	0.1

Set-1	Set-2
I. Mean of X	1. 0.4
II. Mean of Y	2. 0.56
III. Variance of X	3. 0.2
IV. Variance of Y	4. 0

Options :

1. I-3,II-4,III-2,IV-1

2. I-4,II-3,III-2,IV-1

3. I-2,II-3,III-1,IV-4

4. I-1,II-2,III-3,IV-4

Question Number : 134 Question Id : 6232176470 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

If two random variables X and Y have the joint pd.f. $f(x,y)=2-x-y$, for $0\leq x\leq 1$, $0\leq y\leq 1$; and $f(x,y)=0$, otherwise then $E(Y/X=x)$, $V(Y/X=x)$ are =

Options :

1. $\frac{2(1+x+x^2)}{3(1+x)}, \frac{1+x^2}{2}-\left(\frac{2(1+x+x^2)}{3(1+x)}\right)^2$

2. $\frac{(1+x+x^2)}{(1+x)}, \frac{1+x^2}{2} - \frac{2(1+x+x^2)}{3(1+x)}$

3. $\frac{(1+x+x^2)}{(1+x)}, \left(\frac{2(1+x+x^2)}{3(1+x)}\right)^2$

4. $\frac{2(1+x+x^2)}{3(1+x)}, \frac{1+x^2}{2}$

Question Number : 135 Question Id : 6232176471 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

If two random variables X and Y have the joint pd.f. f(x,y)=3(x+y), for $0 \le X \le 1$, $0 \le Y \le 1$, $0 \le X+Y \le 1$; and f(x,y)=0, otherwise then E(X), E(Y) and COV(X,Y)=

Options :

1. 3/8,5/8,3/20

2. 3/8,3/8,-13/320

3. 2/8,1/8,-1/32

4. 5/8,1/8,1/32

Question Number : 136 Question Id : 6232176472 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

Which of the following statement is true regarding the shape of the frequency curve : Set-(1) Poisson and Exponential Distributions; Set-(2) Chi-square and Snedecor's -F Distributions; Set-(3) Student's -t and Normal Distributions

Options :

1. Set-(1) are positively skewed; Set-(2) and Set- (3) are Symmetric

2. All Set-(1), Set- (2) and Set-(3) are Symmetric

3. Set-(1) and Set- (2) are symmetric; Set-(3) are Positively skewed

4. Set-(1) and Set- (2) are positively skewed; Set-(3) are Symmetric

Question Number : 137 Question Id : 6232176473 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

A valid t-test to assess an observed difference between two sample mean value requires; (i) Both populations are independent. (ii) the observations to be sampled from normally distributed parent population. (iii) the variance to be the same for both populations.

Options :

1. (i) and (ii)

2. (ii) and (iii)

3. (i) and (iii)

4. (i), (ii) and (iii)

Question Number : 138 Question Id : 6232176474 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

Let {X(t)=n}be a stochastic process such that $\Pr\{X(t)=n\}=\frac{(at)^{n-1}}{(1+at)^{n+1}}, n=1,2,\ldots$ and

$\Pr\{X(t)=n\}=\frac{at}{1+at}, for\, n=0$; E{X(t)}=1, V{X(t)}=2at+1, then {X(t)} is

Options :

1. Stationary Process

2. Non - Stationary Process

3. Markov Process

4. Logarithmic Process

Question Number : 139 Question Id : 6232176475 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

Let 'a' and 'b' be two extreme barriers such that $Pr\{X_n=a/X_{n-1}=a\}=1$; $Pr\{X_n=b/X_{n-1}=b\}=0$ then (i) 'a' is absorbing barrier; (ii) 'a' is reflecting barrier; (iii) 'b' is absorbing barrier; (iv) 'b' is reflecting barrier;

Options :

1. (ii)&(iii) are True but (i)&(iv) are False

2. (i)&(iv) are True but (ii)&(iii) are False

3. (i)&(iii) are True but (ii)&(iv) are False

4. (i)&(ii) are True but (iii)&(iv) are False

Question Number : 140 Question Id : 6232176476 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

Let the random variable X have binomial distribution with parameter 3 and θ. A test hypothesis $H_0:\theta=3/4$; against $H_1:\theta=1/4$ rejects H_0 of $X\leq 1$. Then the test has the values (i) size (α) and (ii) power ($1-\beta$) values respectively are

Options :

1. 5/32 & 27/32

2. 5/32 & 18/32

3. 15/32 & 27/32

4. 1/32 & 31/32

Question Number : 141 Question Id : 6232176477 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

If X_i for $1 \leq i \leq n$ is a random sample from a Normal population then $\sqrt{n(n-1)}\,(\bar{X}-\mu)/\sqrt{\sum_{i=1}^{n}(X_i-\bar{X})^2}$ follows

Options :

1. F distribution with (n-1,n-2)degrees of freedom

2. t distribution with (n-1) degrees of freedom

3. Chi-square distribution with n degrees of freedom

4. Logistic distribution

Question Number : 142 Question Id : 6232176478 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

Out of the following statements which one is true for a random variable X which has a multivariate normal distribution; (i)Linear combination of the components of X are not normally distributed; (ii)All subsets of the components of X have a Multivariate Normal distribution; (iii) The conditional distributions of the components are multivariate normal

Options :

1. (i),(ii) and (iii) are True

2. (ii) and (iii) are True

3. (i) and (ii) are True

4. (i) and (iii) are True

Question Number : 143 Question Id : 6232176479 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

In the usual notations of Queue model (X/Y/Z): (L/M)

Set-1	Set-2
X	(i) System Capacity
Y	(ii) Queue Discipline
Z	(iii) Input/Arrival Process
L	(iv) Number of Service Channels
M	(v) Output/Departure Process

Options :

1. X-(ii); Y-(i); Z-(iii); L-(v); M-(iv)

2. X-(iii); Y-(i); Z-(ii); L-(iv); M-(v)

3. X-(ii); Y-(i); Z-(iv); L-(v); M-(iii)

4. X-(iii); Y-(v); Z-(iv); L-(i); M-(ii)

Question Number : 144 Question Id : 6232176480 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

If $Y_i = \beta_0 + \beta_1 X_i + u_i$ is the linear regression, then the following assumptions of u_i are true

(i) $E(u_i, X_i) = 0$; (ii) $Cov(u_i, u_j) = 0, for i \neq j$); (iii) $V(u_i / x_i) = 0$;(iv) $Cov(v_i, x_i) = 0$

Options :

1. (i), (iii) are true and (ii),(iv) are false

2. (i), (ii) and (iii) are true and (iv) is false

3. (iii) is true and (i), (ii) and (iv) are false

4. (i) , (ii) and (iv) are true and (iii) is false

Question Number : 145 Question Id : 6232176481 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

Let (X,Y) be a bivariate random variable follows normal distributions with parameters $\mu_X, \mu_Y, \sigma_X^2, \sigma_Y^2 and\, \rho_{XY}$. The conditional distribution of Y given X is $N(\mu_{Y/X}, \sigma_{Y/X}^2)$, then the values of $\mu_{Y/X}$, $\sigma_{Y/X}^2$ and ρ^2 are equal to

Options :

1. $\frac{\sigma_Y^2 - \sigma_{Y/X}^2}{\sigma_Y^2}$ $\sigma_Y^2(1-\rho^2)$ and $\mu_Y + \rho\frac{\sigma_Y}{\sigma_X}(X-\mu_X)$

2. $\mu_Y + \rho\frac{\sigma_Y}{\sigma_X}(X-\mu_X)$, $\sigma_Y^2(1-\rho^2)$ & $\frac{\sigma_Y^2 - \sigma_{Y/X}^2}{\sigma_Y^2}$

3. $\sigma_Y^2(1-\rho^2)$, $\frac{\sigma_Y^2 - \sigma_{Y/X}^2}{\sigma_Y^2}$ and $\mu_Y + \rho\frac{\sigma_Y}{\sigma_X}(X-\mu_X)$

$$\sigma_Y^2(1-\rho^2),\ \mu_Y+\rho\frac{\sigma_Y}{\sigma_X}(X-\mu_X) \text{ and } \frac{\sigma_Y^2-\sigma_{Y/X}^2}{\sigma_Y^2}$$

4.

Question Number : 146 Question Id : 6232176482 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

Let X and Y be related as $Y=\beta_0+\beta_1X+\beta_2Z+\varepsilon$ where X is independent variable, Y is dependent variable and Z is a dummy variable assuming Z=0 (male) and Z=1 (female), then the estimated values of Y with respect to Male and female are

Options :

$$\hat{Y}_F=\hat{\beta}_0+\hat{\beta}_1X;\hat{Y}_M=(\hat{\beta}_0+\hat{\beta}_2)+\hat{\beta}_3X$$

1.

$$\hat{Y}_F=\hat{\beta}_3+\hat{\beta}_1X;\hat{Y}_M=\hat{\beta}_2+\hat{\beta}_1X$$

2.

$$\hat{Y}_M=\hat{\beta}_0+\hat{\beta}_1X;\hat{Y}_F=(\hat{\beta}_0+\hat{\beta}_2)+\hat{\beta}_1X$$

3.

$$\hat{Y}_F=(\hat{\beta}_2+\hat{\beta}_1)X;\hat{Y}_M=(\hat{\beta}_0+\hat{\beta}_1)+\hat{\beta}_2X$$

4.

Question Number : 147 Question Id : 6232176483 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

Which of the following is true in the case of Wishart Distribution (i) It is the multivariate extension of the gamma distribution; (ii) It simplifies to a multivariate generalization of the $\chi 2$ distribution; (iii) It represents the sums of squares (and cross-products) of n draws from a multivariate normal distribution; (iv) it is a special case multivariate Poisson distribution; (v) It is developed as a special case of Multinomial Distribution.

Options :

(i), (iii), (iv) are True & (ii), (v) are False

1.

(ii), (iv), (v) are True & (i), (iii) are False

2.

(i), (iii), are True & (ii), (iv), (v) are False

3.

(i), (ii), (iii) are True & (iv), (v) are False

4.

Question Number : 148 Question Id : 6232176484 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

Two random Variables (X,Y) have a bivariate normal distribution $N(\mu_1, \mu_2, \sigma_1^2, \sigma_2^2, \rho)$ if their joint p.d.f. is $ce^{-\frac{1}{2}Q(x,y)}$ where c and Q(x,y) are respectively

Options :

1.

$$\frac{1}{2\pi\sigma_1\sigma_2}, \left[\left(\frac{x-\mu_1}{\sigma_1}\right)^2 - 2\rho\left(\frac{x-\mu_1}{\sigma_1}\right)\left(\frac{y-\mu_2}{\sigma_2}\right) + \left(\frac{y-\mu_2}{\sigma_2}\right)^2\right]$$

2.

$$\frac{1}{2\pi\sigma_1\sigma_2\sqrt{(1-\rho^2)}}, \left[\left(\frac{x-\mu_1}{\sigma_1}\right) + \left(\frac{y-\mu_2}{\sigma_2}\right)\right]^2$$

3.

$$\frac{1}{2\pi\sigma_1\sigma_2\sqrt{(1-\rho^2)}}, \frac{1}{(1-\rho^2)}\left[\left(\frac{x-\mu_1}{\sigma_1}\right)^2 - 2\rho\left(\frac{x-\mu_1}{\sigma_1}\right)\left(\frac{y-\mu_2}{\sigma_2}\right) + \left(\frac{y-\mu_2}{\sigma_2}\right)^2\right]$$

$$\frac{1}{2\pi\sigma_1\sigma_2\sqrt{(1-\rho^2)}},\left[\left(\frac{x-\mu_1}{\sigma_1}\right)-\left(\frac{y-\mu_2}{\sigma_2}\right)\right]^2$$

4.

Question Number : 149 Question Id : 6232176485 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

Let us suppose that $E(X_1) = 1$, $E(X_2) = 0$, $V(X_1) = 2$, $V(X_2) = 4$ and $Cov(X_1, X_2) = 1$; further if $Y_1 = X_1 + X_2$ and $Y_2 = X_1 + aX_2$, then the mean values of Y_1, Y_2; Variances of Y_1, Y_2; $Cov(Y_1, Y_2)$; and the value of 'a' when Y_1, Y_2 are uncorrelated, are

Options :

1. $2,2,8,2+2a+4a^2$, $3+5a$ and $-3/5$

2. $2,1$, $2+2a+4a^2$, 8, $3+5a$ and $3/5$

3. $1,1,8,2+2a+4a^2$, $3+5a$ and $-3/5$

4. $1,2,8$, $3+5a$, $2+2a+4a^2$ and $-3/5$

Question Number : 150 Question Id : 6232176486 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

Let X_1 and X_2 be two variables representing the length and weight. If the covariance matrices of them are $\Sigma_1 = \begin{pmatrix} 80 & 44 \\ 44 & 80 \end{pmatrix}$ *and* $\Sigma_2 = \begin{pmatrix} 8000 & 440 \\ 440 & 80 \end{pmatrix}$; then the first principal components of Σ_1 *and* Σ_2 are respectively

Options :

1. $0.707X_1 + 0.707\ X_2$ &$0.998X_1 + 0.055\ X_2$

2. $0.337X_1 + 0.905\ X_2$ &$0.788X_1 + 0.355\ X_2$

3. $0.107X_1 + 0.007\ X_2$ &$0.118X_1 + 0.995\ X_2$

4. $0.997X_1 + 0.215\ X_2$ &$0.777X_1 + 0.455\ X_2$

Question Number : 151 Question Id : 6232176487 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

The following are the methods for deciding the number of principal components in PCA (i) The Scree Graph, (ii) Log-Eigen Diagram, (iii) Size of Variance of Principal component, (iv) Cumulative percentage of total variance.

Options :

1. (i) & (iii) only not (ii) & (iv)

2. (iii) & (iv) only not (ii) & (iv)

3. (ii) & (iv) only not (i) & (iii)

4. All methods (i), (ii),(iii) & (iv)

Question Number : 152 Question Id : 6232176488 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

.The prime objective of Principal Component Analysis and Factor Analysis is (i) variance reduction, (ii) dimension reduction, (iii) variable reduction, (iv) heterogeneity reduction

Options :

1. (i) and (ii) are appropriate

2. (iii) and (iv) are appropriate

3. (ii) and (iii) are appropriate

(i) and (iv) are appropriate

4.

Question Number : 153 Question Id : 6232176489 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

The following methods of distance measures have been used to make the cluster analysis (i) Single linkage method or nearest neighbour method, (ii) Complete linkage method or furthest neighbour method, (iii)Average linkage method, (iv) Modest linkage Method

Options :

1. (i), (ii) and (iii) only can be used

2. (i), (ii) (iii) and (iv) only can be used

3. (ii) and (iv) only can be used

4. (ii) and (iii) only can be used

Question Number : 154 Question Id : 6232176490 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

The gain in efficiency in Stratified random sampling over simple random sampling Due to proportional allocation and optimal allocations respectively are equal to

Options :

1. $\frac{V(\bar{y}_n)_{SRS} - V(\bar{y}_{st})_{opt}}{V(\bar{y}_{st})_{opt}}$ & $\frac{V(\bar{y}_n)_{SRS} - V(\bar{y}_{st})_{prop}}{V(\bar{y}_{st})_{prop}}$

$$\frac{V(\bar{y}_n)_{SRS} - V(\bar{y}_{st})_{prop}}{V(\bar{y}_{st})_{prop}} \;\&\; \frac{V(\bar{y}_n)_{SRS} - V(\bar{y}_{st})_{opt}}{V(\bar{y}_{st})_{opt}}$$

2.

$$\frac{V(\bar{y}_n)_{opt} - V(\bar{y}_{st})_{pro}}{V(\bar{y}_{st})_{opt}} \;\&\; \frac{V(\bar{y}_n)_{prop} - V(\bar{y}_{st})_{opt}}{V(\bar{y}_{st})_{prop}}$$

3.

$$\frac{V(\bar{y}_n)_{opt} - V(\bar{y}_{st})_{prop}}{V(\bar{y}_{st})_{prop}} \;\&\; \frac{V(\bar{y}_n)_{prop} - V(\bar{y}_{st})_{SRS}}{V(\bar{y}_{st})_{SRS}}$$

4.

Question Number : 155 Question Id : 6232176491 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

Let X_{ij} be the sample observation belong to i^{th} treatment and j^{th} block in an experiment of 'k' treatments and 'r' blocks in a two way classification analysis of variance, if $\bar{X}_{\bullet\bullet} = \sum_{i=1}^{k}\sum_{j=1}^{r} x_{ij}/rk$; $\bar{X}_{\bullet j} = \sum_{i=1}^{k} x_{ij}/k$ and $\bar{X}_{i\bullet} = \sum_{j=1}^{r} x_{ij}/r$ then $\sum_{i=1}^{k}\sum_{j=1}^{r}\left(x_{ij} - \bar{x}_{\bullet\bullet}\right)^2$; $\sum_{i=1}^{k}(\bar{x}_{i\bullet} - \bar{x}_{\bullet\bullet})^2$; $\sum_{i=1}^{r}(\bar{x}_{\bullet j} - \bar{x}_{\bullet\bullet})^2$ and $\sum_{i=1}^{k}\sum_{j=1}^{r}(x_{ij} - \bar{x}_{i\bullet} - \bar{x}_{\bullet j} + \bar{x}_{\bullet\bullet})^2$ are respectively

Options :

Treatment Sum of squares, Error sum of squares, Blocks sum of squares and Total sum of squares

1.

Total sum of squares, treatment sum of squares, Block sum of squares and error sum of squares

2.

3. Error sum of squares , Total sum of squares, Blocks sum of squares and Treatment Sum of squares

4. Blocks sum of squares, Treatment Sum of squares, Total sum of squares and Error sum of squares

Question Number : 156 Question Id : 6232176492 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

Precision of an estimator sample mean is influenced by (i) directly with error sum squares with respect to mean, (ii) inversely with sample size, (iii) directly with infinite population size

Options :

1. (i) and (iii) are true but not (ii)

2. (ii) and (iii) are true but not (i)

3. (i) and (ii) are true but not (iii)

4. (i),(ii) and (iii) are true

Question Number : 157 Question Id : 6232176493 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

Regarding the elements in a population are (i) Both tangible and intangible, (ii) Both living and non living, (iii) the size of the population is finite and infinite, (iv) all the elements in the population can be studied without eliminating even a single one, (v) all the population elements will be available always.

Options :

1. (i),(ii),(iii) are False but (iv)&(v) are True

2. (i),(iii) are True but (ii), (iv)&(v) are false

3. (iv),(v),(iii) are True but (ii)&(i) are false

(i),(ii),(iii) are True but (iv)&(v) are false

4.

Question Number : 158 Question Id : 6232176494 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

Let the Row sum of squares be s_R^2, let the Column sum of squares be s_C^2 and the Error sum of squares be s_E^2, then the relative efficiency of L.S.D. over C.R.D is E =

Options :

$$\frac{s_R^2 + s_C^2 + (m-1)s_E^2}{(m+1)s_E^2}$$

1.

$$\frac{s_R^2 + s_C^2 + s_E^2}{(m+1)s_E^2}$$

2.

$$\frac{s_R^2 + s_C^2 - s_E^2}{(m-1)s_E^2}$$

3.

$$\frac{s_R^2 - s_C^2 - (m-1)s_E^2}{(m+1)s_E^2}$$

4.

Question Number : 159 Question Id : 6232176495 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

Let there be '6' number of levels in factor A, and '5' number of levels in factor B and let there be '2' number of replications under each experimental combination, then the degrees of freedom for Main effect of A, Main effect B, Interaction effect AB and error sum of squares and the total degrees of freedom are respectively

Options :

4,5,20,30&40

1.

2. 5,4,20,30&60

3. 4,5,20,30&60

4. 5,4,25,30&60

Question Number : 160 Question Id : 6232176496 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

In a 3 factor experiment with A,B and C; A has 3 treatments, B has 4 treatments and C has 2 treatments, each treatment combinations is replicated for 5 times. then the degrees of freedom for sum squares to A,B,C, AB, BC, AC, ABC, error and total are respectively

Options :

1. 2,4,1,3,6,2,6,12,24

2. 4,2,1,6,3,6,12,24,48

3. 3,4,2,6,3,1,6,24, 48

4. 2,4,1,6,3,2,6,24, 48

Question Number : 161 Question Id : 6232176497 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

The survival function of Gamma distribution with shape parameter γ is

Options :

1. $S(x) = 1 - \frac{\Gamma_x(\gamma)}{\Gamma(\gamma)};\ \gamma > 0, x \geq 0$

2. $S(x) = 1 + \frac{\Gamma_x(\gamma)}{\Gamma(\gamma)};\ \gamma > 0, x \geq 0$

3. $S(x) = \frac{\Gamma_x(\gamma)}{\Gamma(\gamma)}; \gamma > 0, x \geq 0$

4. $S(x) = \Gamma(\gamma)\Gamma_x(\gamma); \gamma > 0, x \geq 0$

Question Number : 162 Question Id : 6232176498 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

If one year guarantee is given based on assumption that no more than 10% of the items will be returned. Assuming an exponential distribution in failure rate, what is the maximum failure rate that can be tolerated?

Options :

1. 0.1465 per year

2. 0.1054 per year

3. 0.2312 per year

4. 0.1271 per year

Question Number : 163 Question Id : 6232176499 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

Let there be two parallel, identical and independent components have constant failure rate. If it is desired to achieve R(1000)=0.95, then what will be the system MTTF.

Options :

1. 1784.9

2. 456.3

3. 546.7

4. 5926.5

Question Number : 164 Question Id : 6232176500 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

Equipment is to operate for 5000 hrs. Failure rate is estimated as one in 50,000 hrs. The probability of survival is _____

Options :

1. 0.90484

2. 0.79654

3. 0.63123

4. 0.96432

Question Number : 165 Question Id : 6232176501 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

If R^2 denotes the square multiple correlation for usual regression for n observations and p observed variables, then the adjusted multiple coefficient of determination $\overline{R}^2$ in Principal component analysis can be obtained with the following formula

Options :

1. $\left(\frac{n-1}{n-p-1}\right)\left(R^2\right)$

2. $\left(\frac{n-1}{n-p-1}\right)\left(1-R^2\right)$

3. $1-\left(\frac{n}{n-p}\right)\left(1-R^2\right)$

4. $1-\left(\frac{n-1}{n-p-1}\right)\left(1-R^2\right)$

Question Number : 166 Question Id : 6232176502 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

If the population of 100 size is divided in to two stratums with sizes 60 and 40 respectively. if a sample of 20 observations to be drawn from the total population, then what are the sizes of samples from the first and second stratums respectively

Options :

1. 16,4

2. 12,8

3. 15,5

4. 14,6

Question Number : 167 Question Id : 6232176503 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

Let a Latin Square design have five number of treatments, then the degrees of freedom for Treatment sum of squares, Row sum of squares, Column sum of squares, error sum of squares and total sum of squares are respectively

Options :

1. 4,4,4,12&24

2. 5,5,5,12&24

5,5,5,24&12

3.

4,4,4,15&24

4.

Question Number : 168 Question Id : 6232176504 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

Which one of the following is incorrect?

Options :

1. The hazard function must be negative

2. The hazard function must be integral over $[0,\infty]$

3. The hazard function must be increasing or decreasing

4. The hazard function must be non-monotonic or discontinuous

Question Number : 169 Question Id : 6232176505 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

In M/M/1: ∞/FIFO model, the Average number of customers in the system including the service and the average number of customers in the waiting line are equal to

Options :

1. $\rho/(1-\rho)$ and $\rho^2/(1-\rho)$

2. $(1-\rho)/\rho^2$ and $\rho/(1-\rho)^2$

3. $\rho/(1-\rho)^2$ and $\rho^2/(1-\rho)$

4. $\rho^2/(1-\rho)$ and $(1-\rho)/\rho^2$

Question Number : 170 Question Id : 6232176506 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

If the joint probability density function of the Bivariate Normal distribution(BVN) is $f(x,y) = \frac{1}{18\sqrt{3}\pi}\exp[-\frac{8}{27}\{(x-7)^2 + 4(y+5)^2 - 2(x-7)(y+5)\}]$

Then the parameters are

Options :

1. $\mu_X = 7, \mu_Y = -5, \sigma_X^2 = 36, \sigma_Y^2 = 9, \rho = 0.5$

2. $\mu_X = -7, \mu_Y = -5, \sigma_X^2 = 6, \sigma_Y^2 = 9, \rho = 0.5$

3. $\mu_X = 7,\ \mu_Y = 5,\ \sigma_X^2 = 36,\ \sigma_Y^2 = 3,\ \rho = 0.5$

4. $\mu_X = 7,\ \mu_Y = 5,\ \sigma_X^2 = 36,\ \sigma_Y^2 = 9, \rho = 1$

Question Number : 171 Question Id : 6232176507 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

State 'j' is persistent if and only if (1) $\sum_{n=0}^{\infty} P_{jj}^{(n)} > \infty$; (2) $\sum_{n=0}^{\infty} P_{jj}^{(n)} < \infty$; (3) $\sum_{n=0}^{\infty} P_{jj}^{(n)} = \infty$

Options :

1. (1) is True

2. (2) is True

3. (3) is True

4. (1),(2) and (3) are False

Question Number : 172 Question Id : 6232176508 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

Let {X(t)=n}be a stochastic process such that $\Pr\{X(t)=n\}=\frac{(at)^{n-1}}{(1+at)^{n+1}}, n=1,2,\ldots;$

$\Pr\{X(t)=n\}=\frac{at}{1+at}$; for n=0, with E{X(t)}=1 and V{X(t)}=2at+1, then {X(t)} is

Options :

1. Stationary Process

2. Evolutionary Process

3. Markov Process

4. Logarithmic Process

Question Number : 173 Question Id : 6232176509 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

If a random Sample of size 7 is drawn from a distribution with pdf $f_\theta(x)=\begin{cases}\frac{1+x^2}{3\theta(1+\theta^2)}, -2\theta\le x\le\theta, \theta>0\\ 0, \quad otherwise\end{cases}$ and the observations are 12,-54, 26, -2, 24, 17 and -39. What is MLE of θ?

Options :

1. 12

2. 24

3. 26

4. 27

Question Number : 174 Question Id : 6232176510 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

If the joint P.M.F. of (X, Y) is P(x, y) = $\frac{e^{-\lambda}\lambda^{x}p^{y}(1-p)^{x-y}}{y!(x-y)!}$; x = 0,1, …. ; y=0,1,2,3,……x; then the probability mass functions of X given Y and Y given X are _____ respectively.

Options :

1. Poisson and Poisson Distributions

2. Poisson and Binomial Distributions

3. Binomial and Binomial Distributions

4. Binomial and Poisson Distributions

Question Number : 175 Question Id : 6232176511 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

The mean of non-central F distribution with n_1 and n_2 degrees of freedom and non-centrality parameter $\boldsymbol{\lambda_1}$ is

Options :

1. $\frac{n_1}{n_2}\ \frac{n_2-2}{n_1+\lambda_1}$

2. $\frac{n_1}{n_2}\ \frac{n_2-2}{n_1}$

3. $\frac{n_2}{n_1}\ \frac{n_1+\lambda_1}{n_2-2}$

4. $\frac{n_1+\lambda_1}{n_2-2}$

Question Number : 176 Question Id : 6232176512 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

If the pdf of Normal distribution is given by f(x)= $\frac{1}{\pi} e^{-\frac{x^2}{4}+\frac{x}{2}-1}$, then the mean and variance are

Options :

1. $\left(\sqrt{2}, \frac{1}{\sqrt{2}}\right)$

2. $\left(\sqrt{2}, \sqrt{2}\right)$

3. $\left(2, \frac{1}{\sqrt{2}}\right)$

4. $\left(\frac{1}{\sqrt{2}}, 2\right)$

Question Number : 177 Question Id : 6232176513 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

With the usual notation the test statistic for testing the significance of difference between two population correlation coefficients under $H_0 : \rho_1 = \rho_2$, when the sample size is large is

Options :

$$Z = \frac{\frac{1}{2}\log_e\left(\frac{1+r_1}{1-r_1}\right) - \frac{1}{2}\log_e\left(\frac{1+r_2}{1-r_2}\right)}{\sqrt{\frac{1}{n_1+n_2-3}}}$$

1.

$$Z = \frac{\frac{1}{2}\left[\log_e\left(\frac{1+r_1}{1-r_1}\right) - \frac{1}{2}\log_e\left(\frac{1+r_2}{1-r_2}\right)\right]}{\sqrt{\frac{1}{n_1-3}+\frac{1}{n_2-3}}}$$

2.

$$Z = \frac{\frac{1}{2}\left[\log_e\left(\frac{1+r_1}{1-r_1}\right) - \frac{1}{2}\log_e\left(\frac{1+r_2}{1-r_2}\right)\right]}{\sqrt{\frac{1}{n_1}+\frac{1}{n_2}}}$$

3.

$$Z = \frac{\frac{1}{2}\left[\log_e\left(\frac{1+r_1}{1-r_1}\right) - \frac{1}{2}\log_e\left(\frac{1+r_2}{1-r_2}\right)\right]}{\sqrt{\frac{1}{n_1+3}+\frac{1}{n_2+3}}\sqrt{\frac{1}{n_1-3}+\frac{1}{n_2-3}}}$$

4.

Question Number : 178 Question Id : 6232176514 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

Let the given LPP has two variable objective function with Maximization type; All the constraints are ≤ type; variables under study are ≥0; all constraints are having the non negative sign on its right hand side , then

Options :

1. The Convex region does not exist in any quadrant of the graph.

2. The Convex region is bounded, and it exists in the second quadrant of the graph.

3. The Convex region is bounded, and optimal basic feasible solution does exist in the first quadrant of the graph.

4. The Convex region is Unbounded, and it exists in the First quadrant of the graph

Question Number : 179 Question Id : 6232176515 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

Let $Pr\{X_n=j/X_{n-1}=j-1\}=p$; $Pr\{X_n=j/X_{n-1}=j+1\}=q$; where $0<p,q<1$; $Pr\{X_n=0/X_{n-1}=0\}=1$; $Pr\{X_n=k/X_{n-1}=k\}=1$; then the above transitions represent

Options :

1. Univariate random walk of a drunkard

2. Univariate random walk of a gambler's ruin problem

3. Bivariate random walk of a drunkard

4. Bivariate random walk of a gambler's ruin problem

Question Number : 180 Question Id : 6232176516 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

The cumulative distribution function of a random variable X is given by

$$f_\theta(x) = \begin{cases} 0, & x < 2 \\ \frac{1}{10}(x^2 - 7/3), & 2 \le x < 3 \\ 1, & x \ge 3 \end{cases}$$ which of the following statement(s) is (are) TRUE

(i) F(x) is continuous everywhere; (ii) F(x) increases only by jumps; (iii) P(X=2) =1/6; (iv) P(X=(5/2)/2 ≤ X ≤ 3) = 0

Options :

1. (i) and (ii)

2. (iii) and (iv)

3. (i) and (iii)

4. (i), (ii), (iii) and (iv)