Andhra Pradesh State Council of Higher Education

Notations :

1.Options shown in green color and with ✔ icon are correct.

2.Options shown in red color and with ✖ icon are incorrect.

Question Paper Name :	Statistics 18th Oct 2022 Shift 2
Duration :	120
Total Marks :	140
Display Marks:	No
Share Answer Key With Delivery Engine :	Yes
Calculator :	None
Magnifying Glass Required? :	No
Ruler Required? :	No
Eraser Required? :	No
Scratch Pad Required? :	No
Rough Sketch/Notepad Required? :	No
Protractor Required? :	No
Show Watermark on Console? :	Yes
Highlighter :	No
Auto Save on Console?	Yes
Change Font Color :	No
Change Background Color :	No
Change Theme :	No
Help Button :	No
Show Reports :	No
Show Progress Bar :	No
Is this Group for Examiner? :	No
Examiner permission :	Cant View
Show Progress Bar? :	No

Research Methodology

Section Id :	549470377
Section Number :	1
Mandatory or Optional :	Mandatory
Number of Questions :	59
Section Marks :	70
Enable Mark as Answered Mark for Review and Clear Response :	Yes
Maximum Instruction Time :	0
Is Section Default? :	null

Question Number : 1 Question Id : 54947026820 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

The most expected immediate outcome of teaching is

Options :

1. ✔ Changes in the behaviour of students in desirable direction

2. ✖ Development of total personality of students

3. ✖ Building characters of the students

Getting selected for a suitable job

4. ✖

Question Number : 2 Question Id : 54947026821 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Good teaching is best reflected by

Options :

Attendance of students

1. ✖

Number of distinctions

2. ✖

Meaningful questions asked by students

3. ✔

Pin-drop silence in the class

4. ✖

Question Number : 3 Question Id : 54947026822 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Listening to a lecture is basically

Options :

Informational listening

1. ✖

Evaluative listening

2. ✔

Emphatic listening

3. ✖

Dynamic Listening

4. ✖

Question Number : 4 Question Id : 54947026823 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Which of the following is not a characteristic of a slow learner?

Options :

Limited vocabulary

1. ✖

Short span of attention

2. ✖

Abstract thinking

3. ✔

Limited range of interests

4. ✖

Question Number : 5 Question Id : 54947026824 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Dynamic approach to teaching means

Options :

Teaching should be forceful and effective

1. ✖

Teachers should be energetic and dynamic

2. ✖

The topics of teaching should not be static, but dynamic

3. ✖

The students should be required to learn through activities

4. ✔

Question Number : 6 Question Id : 54947026825 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

For an efficient and durable learning, learner should have

Options :

1. ✖ Ability to learn only

2. ✖ Requisite level of motivation only

3. ✖ Opportunities to learn only

4. ✔ Desired level of ability and motivation

Question Number : 7 Question Id : 54947026826 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

National Literacy Mission was established in

Options :

1. ✖ 1996

1988

2. ✔

1999

3. ✖

2000

4. ✖

Question Number : 8 Question Id : 54947026827 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Research can be conducted by a person who

Options :

Has studied research methodology

1. ✖

Holds a postgraduate degree

2. ✖

Possesses thinking and reasoning ability

3. ✔

Is a hard worker

4. ✖

Question Number : 9 Question Id : 54947026828 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Which of the following research specifically requires objectivity to discover facts and causes from the data gathered for the purpose?

Options :

Quantitative research

1. ✔

Fundamental research

2. ✖

Qualitative research

3. ✖

Action research

4. ✖

Question Number : 10 Question Id : 54947026829 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

The classification of studies into exploratory, descriptive, analytical, or predictive research is based on

Options :

1. ✖ Logic of the research

2. ✖ Outcome of the research

3. ✖ Process of the research

4. ✔ Purpose of the research

Question Number : 11 Question Id : 54947026830 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Which type of study will be preferred by a researcher to estimate the degree of relationship between the level of education and achievement motivation?

Options :

Naturalistic

1. ✖

Inventory

2. ✖

Correlational

3. ✔

Experimental

4. ✖

Question Number : 12 Question Id : 54947026831 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Good research ethics means

Options :

Not disclosing the holdings of shares or stocks in a company that sponsors your research

1. ✖

Assigning a particular research problem to one PhD or research student only

2. ✔

Discussing with your colleagues confidential data from a research paper that you are reviewing for an academic journal

3. ✖

Submitting the same research manuscript for publishing in more than one journal

4. ✖

Question Number : 13 Question Id : 54947026832 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

A research paper

Options :

is a compilation of information on a topic

1. ✖

contains original research as deemed by the author

2. ✖

contains peer-reviewed original research or the evaluation of research conducted by others.

3. ✔

can be published in more than one journal.

4. ✖

Question Number : 14 Question Id : 54947026833 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Manipulation is always a part of

Options :

1. ✖ Historical research

2. ✖ Fundamental research

3. ✖ Descriptive research

4. ✔ Experimental research

Is Section Default? : null

Question Id : 54947026834 Sub Question Shuffling Allowed : Yes Group Comprehension Questions : No Question Pattern Type : NonMatrix Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Question Numbers : (15 to 21)

Read the following passage carefully and answer the questions from 15 to 21:

Ecosystems provide people with a variety of goods and services, food, clean water, clean air, flood control, soil stabilization, pollination, climate regulation, spiritual fulfilment, and aesthetic enjoyment, to name just a few. Most of these benefits are either irreplaceable or the technology necessary to replace them is prohibitively expensive. For example, potable freshwater can be provided by desalinating sea water, but only at great cost.

The rapidly expanding human population has greatly modified the earth's ecosystem to meet their increased requirements of some of the goods and services, particularly food, freshwater, timber, fibre, and fuel. These modifications have contributed substantially to human well being and economic development. However, the benefits have not been equally distributed. Some people have actually been harmed by these changes. Moreover, short-term increases in some ecosystems' goods and services have come at the cost of long-term degradation of others. For example, efforts to increase the production of food and fibre have decreased the ability of some ecosystems to provide clean water, regulate flooding, and support biodiversity.

Sub questions

Question Number : 15 Question Id : 54947026835 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Expanding human population has an adverse effect on

(A) Spiritual fulfilment

(B) Availability of potable freshwater

(C) Employment

(D) Biodiversity

Which of the statements given above are correct?

Options :

(A), (B), and (C)

1. ✖

(B), (C), and (D)

2. ✖

(B) and (D)

3. ✔

All of the above

4. ✖

Question Number : 16 Question Id : 54947026836 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

The passage mentions that 'some people have actually been harmed by these changes'. It indicates towards

Options :

1. ✖ Inequitable distribution of benefit

2. ✖ Decrease in the ability of some ecosystems to provide clean water, regulate flooding, and support biodiversity

3. ✔ Both (1) and (2)

4. ✖ Neither (1) nor (2)

Question Number : 17 Question Id : 54947026837 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Which of the following is correct in the context of the passage?

Options :

1. ✔ The rapid expansion of population has adversely affected some people

2. ✖ Sufficient efforts have not been made to increase the production of food and fibre

3. ✖ In short term, some people may be harmed, but in long term, everyone will benefit from modifications in earth's ecosystem

4. ✖ No answer

Question Number : 18 Question Id : 54947026838 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

With reference to the passage, consider the following statements:

(A) It is imperative to modify the earth's eco-system for the well-being of mankind

(B) Technology can never replace all the goods and services provided by ecosystems

Which of the statements given above is/are correct?

Options :

Only (A)

1. ✖

Only (B)

2. ✔

Both (A) and (B)

3. ✖

Neither (A) nor (B)

4. ✖

Question Number : 19 Question Id : 54947026839 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

According to the passage, which of the following can be taken as the main reason for modification of earth's ecosystem?

Options :

Technology

1. ✖

Increasing population

2. ✔

Lack of an integrated approach

3. ✖

No answer

4. ✖

Question Number : 20 Question Id : 54947026840 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Which of the following can be considered as the most suitable title for the passage?

Options :

Modification of our ecosystem

1. ✔

Our natural resources

2. ✖

Harmful effect of increase in human population

3. ✖

Human interference in our ecosystem

4. ✖

Question Number : 21 Question Id : 54947026841 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

With reference to the passage, consider the following statements:

(A) Technology driven ecosystems are alternate means of future needs

(B) Technology helps in improving ecosystems on short term basis but at the cost of long term eco-degradation

Which of the statements given above is/are correct?

Options :

1. ✖ Only (A)

2. ✖ Only (B)

3. ✔ Both (A) and (B)

4. ✖ Neither (A) nor (B)

Is Section Default? : null

Question Number : 22 Question Id : 54947026842 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

The essential components of communication are

Options :

1. ✔ Source, message, interference, channel, receiver, feedback, and context

2. ✖ Sign, source, destination, interaction, and correlation

3. ✖ Signs, symbols, understanding, communication, and communicant

4. ✖ Symbols, understanding, purpose, ideas, opinions, non-verbal, and reaction

Question Number : 23 Question Id : 54947026843 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Another term used for interpersonal communication is

Options :

1. ✖ Group communication

Face-to-face public communication

2. ✖

Dyadic communication

3. ✔

Traditional communication

4. ✖

Question Number : 24 Question Id : 54947026844 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Communication in the class fails because

Options :

The students are inattentive

1. ✖

The teacher is monotonous in delivering the message

2. ✔

The students have no interest in the lesson being taught

3. ✖

There is very much noise in and around the classroom

4. ✖

Question Number : 25 Question Id : 54947026845 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

The ability to understand, communicate with, motivate, and support other people, both individually and in groups, define which of the following organizational skills?

Options :

Hard skills

1. ✖

Soft skills

2. ✔

Conceptual skills

3. ✖

Political skills

4. ✖

Question Number : 26 Question Id : 54947026846 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

In India for broadcasting TV programmes which system is followed?

Options :

1. ✖ NTCS

2. ✔ PAL

3. ✖ NTSE

4. ✖ SECAM

Question Number : 27 Question Id : 54947026847 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

In the process of communication, which one of the following is in the chronological order?

Options :

1. ✖ Communication, medium, receiver, effect message

Medium, communicator, message, receiver, effect

2. ✖

Communicator, message, medium, receiver, effect

3. ✔

Message, communicator, medium, receiver, effect

4. ✖

Question Number : 28 Question Id : 54947026848 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Communication between two or more people is called

Options :

Organizational communication

1. ✖

Interpersonal communication

2. ✔

Extrapersonal communication

3. ✖

Intrapersonal communication

4. ✖

Question Number : 29 Question Id : 54947026849 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

1, 8, 27, 64, 125, 216, …

Options :

256

1. ✖

343

2. ✔

365

3. ✖

400

4. ✖

Question Number : 30 Question Id : 54947026850 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

ABD, CDF, …, GHJ, IJL

Options :

EFH

1. ✔

IJL

2. ✖

HIJ

3. ✖

HIK

4. ✖

Question Number : 31 Question Id : 54947026851 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

If 'SELDOM' is coded as '1 2 4 3 6 5', how will you code 'MODE'?

Options :

3 6 2 1

1. ✖

6 2 3 1

2. ✖

5 6 3 2

3. ✔

6 2 1 3

4. ✖

Question Number : 32 Question Id : 54947026852 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

E is the son of A; D is the son of B, E is married to C, C is the daughter of B. How is D related to E?

Options :

Brother

1. ✖

Uncle

2. ✖

Father-in-law

3. ✖

Brother-in-law

4. ✔

Question Number : 33 Question Id : 54947026853 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Raman travels a distance of 5 km in south direction. He turns to his right. After walking 3 km, he turns to the left and walks 5 km. Now in which direction is he from the starting place?

Options :

1. West ✖

2. South ✖

3. South-west ✔

4. North-east ✖

Question Number : 34 Question Id : 54947026854 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

P, Q, R, S, and T are sitting in a straight line facing north. P sits next to S but not to T. Q is sitting next to R, who sits on the extreme left corner. T does not sit next to Q. Who sits to the left of S?

Options :

1. ✔ P

2. ✖ Q

3. ✖ R

4. ✖ S

Question Number : 35 Question Id : 54947026855 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

The year next to 1991 will have the same calendar as that of the year 1991.

Options :

1. ✖ 1992

2. ✖ 1995

3. ✖ 1996

1997

4. ✔

Question Number : 36 Question Id : 54947026856 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

A disjunctive proposition is a type of

Options :

Conditional proposition

1. ✔

Unconditional proposition

2. ✖

Categorical proposition

3. ✖

Imperative proposition

4. ✖

Question Number : 37 Question Id : 54947026857 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

'Honesty is the best policy' because

Options :

1. ✖ God rewards those who follow this maxim

2. ✖ It leads to recognition in the society

3. ✔ It facilitates cohesiveness in society

4. ✖ It leads to material prosperity and spiritual awakening

Question Number : 38 Question Id : 54947026858 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Given below are two statements followed by four conclusions numbered I, II, III, and IV. You have to take the given statements to be true even if they seem to be at variance with commonly known facts and then decide which of the given conclusions logically follow from the given statements.

Statements:

Some tables are TVs.

Some TVs are radios.

Conclusions:

I. Some tables are radios.

II. Some radios are tables.

III. All radios are TVs.

IV. All TVs are tables.

Options :

1. ✖ Only I and III follow

2. ✖ Only II and IV follow

3. All follow ✖

4. None follows ✔

Question Number : 39 Question Id : 54947026859 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Given below are two statements followed by four conclusions numbered I, II, III, and IV. You have to take the given statements to be true even if they seem to be at variance with commonly known facts and then decide which of the given conclusions logically follow from the given statements.

Statements:

All branches are flowers

All flowers are trees.

Conclusions:

I. All branches are trees.

II. All trees are branches.

III. All flowers are branches.

IV. Some trees are branches.

Options :

Only I and IV follow

1. ✔

Only II and III follow

2. ✖

All follow

3. ✖

None follows

4. ✖

Question Number : 40 Question Id : 54947026860 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Which of the following are voluntary provisions in the 73rd Constitutional Amendment Act (1992)?

I. Minimum age of 21 for contesting elections to Panchayats

II. Indirect elections to the post of Chairperson Panchayats at the intermediate and district levels.

III. Representation of Members of Parliament and State Legislature on Panchayati Raj institutions

IV. Reservation of seats for backward classes.

Select the correct answer from the code given below.

Options :

I, II, and IV

1. ✖

II, III, and IV

2. ✖

I, II, and III

3. ✖

III and IV

4. ✔

Question Number : 41 Question Id : 54947026861 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

If the statement 'some men are honest' is false, which among the following statements will be true? Choose the correct code given below.

(i) All men are honest.

(ii) No men are honest.

(iii) Some men are not honest.

(iv) All men are dishonest.

Options :

(i), (ii) and (iii)

1. ✔

(ii), (iii) and (iv)

2. ✖

(i), (iii) and (iv)

3. ✖

(ii), (i) and (iv)

4. ✖

Question Number : 42 Question Id : 54947026862 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Given below are two premises.

Premises:

(i) All saints are religious. (major)

(ii) Some honest persons are saints. (minor)

Four conclusions are drawn from those two premises in four codes. Select the code that states the conclusion validly drawn.

Options :

All saints are honest.

1. ✖

Some saints are honest.

2. ✖

Some honest persons are religious.

3. ✔

All religious persons are honest.

4. ✖

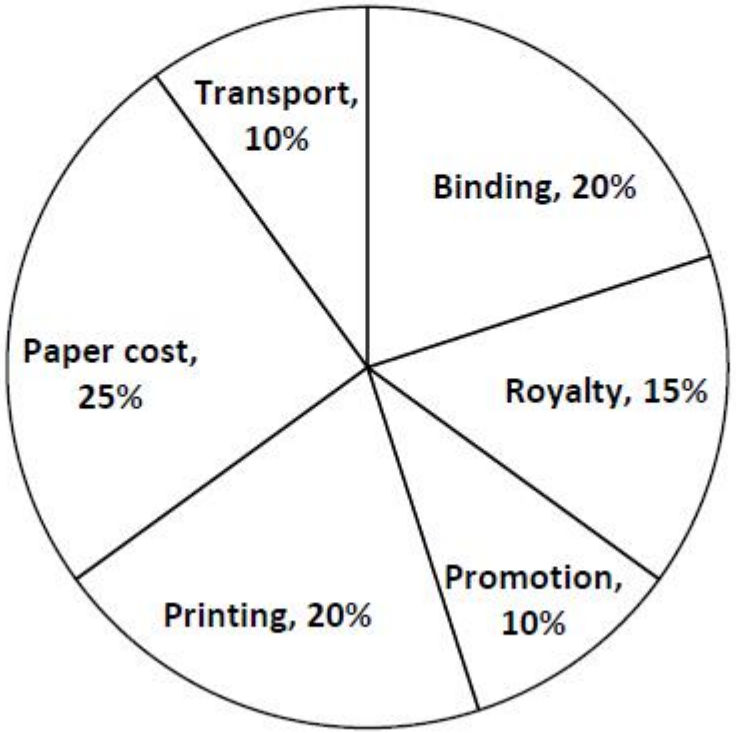
Is Section Default? : null

Question Id : 54947026863 Sub Question Shuffling Allowed : Yes Group Comprehension Questions : No Question Pattern Type : NonMatrix Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Question Numbers : (43 to 45)

Note:

Study the pie chart given below and answer questions 43, 44 and 45. It gives the breakup of expenses incurred in publishing a book.



Sub questions

Question Number : 43 Question Id : 54947026864 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

If the cost price of the book is Rs.150, then what is the combined printing and binding cost for a single copy of the book?

Options :

1. ✔ 60

2. ✖ 75

3. ✖ 80

4. ✖ 85

Question Number : 44 Question Id : 54947026865 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

What is the central angle of the sector corresponding to the expenditure incurred on royalty?

Options :

1. ✖ 48°

2. ✔ 54°

3. ✖ 60°

4. ✖ 72°

Question Number : 45 Question Id : 54947026866 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

What is the difference between promotion and printing cost in rupees if we assume that total cost is Rs.200

Options :

1. ✖ 10

2. ✔ 20

3. ✖ 30

4. ✖ 40

Is Section Default? : null

Question Id : 54947026867 Sub Question Shuffling Allowed : Yes Group Comprehension Questions : No Question Pattern Type : NonMatrix Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Question Numbers : (46 to 49)

Note:

Study the following table carefully and answer questions 46–49. It consists of data on the number of candidates who appeared from five schools in the board exams over 2004–2008.

Year	Schools				
	A	B	C	D	E
2004	650	760	820	800	780
2005	700	740	860	780	740
2006	800	820	940	750	730
2007	750	880	920	840	790
2008	850	840	900	860	770

Sub questions

Question Number : 46 Question Id : 54947026868 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

What is the average number of students who appeared from School B for all the years?

Options :

1. ✖ 676

2. ✖ 787

3. ✔ 808

4. ✖ 818

Question Number : 47 Question Id : 54947026869 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

The number of students who appeared in 2006 from School A is what percent of the total number of students who appeared from School A for all the years together?

Options :

1. ✖ 25.25

2. ✔ 21.33

22.45

3. ✖

23.45

4. ✖

Question Number : 48 Question Id : 54947026870 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

What is the ratio between the total numbers of students who appeared in 2004 and 2005 from Schools C and D, respectively?

Options :

84 : 79

1. ✔

79 : 84

2. ✖

84 : 89

3. ✖

89 : 84

4. ✖

Question Number : 49 Question Id : 54947026871 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

What is the average number of students who appeared from the given schools in 2007?

Options :

1. 825 ✖

2. 836 ✔

3. 845 ✖

4. 863 ✖

Is Section Default? : null

Question Number : 50 Question Id : 54947026872 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

The concept of connect intelligence is derived from

Options :

1. Virtual reality ✖

Fuzzy logic

2. ✖

Bluetooth technology

3. ✖

Value-added networks

4. ✔

Question Number : 51 Question Id : 54947026873 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Programs designed to perform specific tasks are known as

Options :

System software

1. ✖

Application software

2. ✔

Utility programs

3. ✖

Operating system

4. ✖

Question Number : 52 Question Id : 54947026874 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Which of the following is not a network device?

Options :

Router

1. ✖

Switch

2. ✖

Hub

3. ✖

CPU

4. ✔

Question Number : 53 Question Id : 54947026875 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Which one of the following is a search engine?

Options :

Macromedia Flash

1. ✖

Google

2. ✔

Netscape

3. ✖

Librarians' Index to the Internet

4. ✖

Question Number : 54 Question Id : 54947026876 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

FTP stands for

Options :

Full Text Processing

1. ✖

File Transfer Program

2. ✖

File Transfer Process

3. ✖

File Transfer Protocol

4. ✔

Question Number : 55 Question Id : 54947026877 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Wired Ethernet is basically

Options :

ADSL

1. ✖

ISDN

2. ✔

Broadband

3. ✖

The Internet

4. ✖

Question Number : 56 Question Id : 54947026878 Display Question Number : Yes Is Question Mandatory : No Calculator : None

Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Eklavya Technology channel, started in 2003, is a distant-learning joint initiative between

Options :

1. ✔ IIT and IGNOU

2. ✖ IIIT and IGNOU

3. ✖ UGC and AICTE

4. ✖ IIT and AICTE

Question Number : 57 Question Id : 54947026879 Display Question Number : Yes Is Question Mandatory : No Calculator : None
Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Which of the following gas affects human health by reducing blood's ability to carry oxygen to different parts of the body?

Options :

Carbon monoxide

1. ✔

Sulphur dioxide

2. ✖

Carbon dioxide

3. ✖

Nitrous dioxide

4. ✖

Question Number : 58 Question Id : 54947026880 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Acid rain is formed by the

Options :

Combination of chemical air pollutants with atmospheric water droplets

1. ✔

Mixing of acid with rain

2. ✖

Release of industrial pollutants in the atmosphere

3. ✖

No answer

4. ✖

Question Number : 59 Question Id : 54947026881 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Best extinguisher for inflammable materials is

Options :

Water

1. ✖

SO_2

2. ✖

CO_2

3. ✔

CO

4. ✖

Question Number : 60 Question Id : 54947026882 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Nuclear fusion reactions happens spontaneously in

Options :

1. ✖ The core of the earth

2. ✖ The commercial nuclear reactor

3. ✔ The atmosphere of the sun

4. ✖ The eruption of a volcano

Question Number : 61 Question Id : 54947026883 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

The tallest trees in the world are found in the

Options :

1. ✔ Equatorial region

Temperate region

2. ✖

Monsoon region

3. ✖

Mediterranean region

4. ✖

Question Number : 62 Question Id : 54947026884 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Which of the following element is used in the making of solar cells?

Options :

Platinum

1. ✖

Carbon

2. ✖

Silicon

3. ✔

Silver

4. ✖

Question Number : 63 Question Id : 54947026885 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Organic food is supposed to be better for human health as

Options :

It is raised on special chemicals

1. ✖

It is more expensive

2. ✖

It is grown without the use of artificial fertilizers and pesticides

3. ✔

No answer

4. ✖

Question Number : 64 Question Id : 54947026886 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

The Ministry of Human Resource Development was created in the year

Options :

1. ✖ 1972

2. ✖ 1980

3. ✔ 1985

4. ✖ 1991

Question Number : 65 Question Id : 54947026887 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Which of the following agency or institution proposed introduction of India Education Index (IEI) for ranking institutes based on academic, research, performance, and other parameters?

Options :

1. ✖ AICTE

2. ✔ NAAC

UGC

3. ✖

IIT-Delhi

4. ✖

Question Number : 66 Question Id : 54947026888 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

India, that is Bharat, shall be a union of states. The states and the territories, thereof, shall be as specified in the

Options :

First Schedule

1. ✔

Second Schedule

2. ✖

Third Schedule

3. ✖

No answer

4. ✖

Question Number : 67 Question Id : 54947026889 Display Question Number : Yes Is Question Mandatory : No Calculator : None

Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

How do Directive Principles of State Policy differ from Fundamental Rights?

Options :

1. ✖ The former are meant for UTs, whereas the latter are for states.

2. ✔ The former are not enforceable, whereas the latter are enforceable.

3. ✖ The former are not a part of the constitution, whereas the latter are the part of the constitution.

4. ✖ No answer

Question Number : 68 Question Id : 54947026890 Display Question Number : Yes Is Question Mandatory : No Calculator : None
Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

The maximum strength of Lok Sabha and Rajya Sabha, respectively, is

Options :

1. ✖ 552 and 250

537 and 275

2. ✖

525 and 238

3. ✖

545 and 250

4. ✔

Question Number : 69 Question Id : 54947026891 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Which subject was transferred from state list to Concurrent List by the 42nd amendment of the constitution?

Options :

Agriculture

1. ✖

Education

2. ✔

Irrigation

3. ✖

Local self-government

4. ✖

Question Number : 70 Question Id : 54947026892 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Who is the highest Law Officer of a state?

Options :

Attorney General

1. ✖

Advocate General

2. ✔

Solicitor General

3. ✖

Secretary General

4. ✖

Statistics

Section Id :	549470378
Section Number :	2
Mandatory or Optional :	Mandatory

Number of Questions :	70
Section Marks :	70
Enable Mark as Answered Mark for Review and Clear Response :	Yes
Maximum Instruction Time :	0
Is Section Default? :	null

Question Number : 71 Question Id : 54947026893 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

When n is divided by 6, the remainder is 4. When 2n is divided by 6, the remainder is

Options :

1. ✖ 4

2. ✔ 2

3. ✖ 0

4. ✖ 1

Question Number : 72 Question Id : 54947026894 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Integration of $(\sin(x) + \cos(x))e^x$ is_____

Options :

1. ✔ $e^x \text{ Sin}(x)$

2. ✖ $e^x \text{ Cos}(x)$

3. ✖ $e^x \text{ Tan}(x)$

4. ✖ $e^x (\text{Sin}(x)+\text{Cos}(x))$

Question Number : 73 Question Id : 54947026895 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

The n^{th} term of the sequence $\left\{1, \frac{5}{2}, \frac{5}{3}, \frac{9}{4}, \frac{9}{5}, \ldots\right\}$ is

Options :

1. ✖ $\frac{2n+(-1)^n}{2n}$

2. ✔ $\frac{2n+(-1)^n}{n}$

3. ✖ $\frac{2n+(-1)^{n+1}}{2n}$

4. ✖ $\frac{2n+(1)^{n}}{2n}$

Question Number : 74 Question Id : 54947026896 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

If 2/3, k, 5/8 are in AP then the value of k is

Options :

1. ✖ 31/24

2. ✖ 48/31

3. ✖ 24/31

4. ✔ 31/48

Question Number : 75 Question Id : 54947026897 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

If $f: A \rightarrow B$ is one-one function and $f(a) = f(b)$ then ...

Options :

1. ✖ $a \neq b$

2. ✖ $a > b$

3. ✖ $a < b$

4. ✔ $a = b$

Question Number : 76 Question Id : 54947026898 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

The radius of convergence of the series $\frac{x+0.2}{1} + \frac{(x+0.2)^2}{2} + \ldots + \frac{(x+0.2)^n}{n} + \ldots$

Options :

1. ✔ 1

2. ✖ ∞

3. ✖ 2

4. ✖ Zero

Question Number : 77 Question Id : 54947026899 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

What is the number of critical points of $f(x) = |x^2 - 1| / x^2$?

Options :

1. ✖ 0

2. ✖ 1

3. ✔ 2

4. ✖ 3

Question Number : 78 Question Id : 54947026900 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

If f and g are continuous real valued functions on the metric space X. Then the set $A = \{x \in X : f(x) < g(x)\}$ is ...

Options :

1. ✖ Closed

2. ✖ Half-open

3. ✔ Open

4. ✖ Half-closed

Question Number : 79 Question Id : 54947026901 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

The function $f(x) = \begin{cases} x \sin\left(\frac{1}{x}\right), & x \neq 0 \\ 1, & x = 0 \end{cases}$ has

Options :

1. ✖ Continuity at $x = 0$

2. ✖ Non-removal discontinuity at $x = 0$

3. ✔ Removal discontinuity at $x = 0$

4. ✖ Mixed discontinuity at $x = 0$

Question Number : 80 Question Id : 54947026902 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Find the value of m such that the vector (m, 7, −4) is a linear combination of vectors (−2, 2, 1) and (2, 1, −2).

Options :

1. ✔ 2

2. ✖ −2

3. ✖ 0

4. ✖ −1

Question Number : 81 Question Id : 54947026903 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

If A is countable

Options :

1. ✖ $m * A = \infty$

2. ✔ $m * A = 0$

3. ✖ $m * A \neq 0$

4. ✖ $m * A = 1$

Question Number : 82 Question Id : 54947026904 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Given the function $f(x, y) = x^3 + y^3 - 63\,(x + y) + 12xy$

Options :

1. ✖ The function is maximum at (7, - 7)

The function is minimum (2, 3)

2. ✖

The function has neither maximum nor minimum at (5, 1)

3. ✖

The function has four stationary points

4. ✔

Question Number : 83 Question Id : 54947026905 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

If $A = \{1, 2, 4\}, B = \{2, 4, 5\}, C = \{2, 5\}$, then $(A - B) \times (B - C)$ is

Options :

$\{(1, 2), (1, 5), (2, 5)\}$

1. ✖

$\{(1, 4)\}$

2. ✔

$(1, 4)$

3. ✖

$(1,7),(3,8)$

4. ✖

Question Number : 84 Question Id : 54947026906 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Let $A = \begin{bmatrix} 3 & 1 & -1 \\ 2 & 2 & -1 \\ 2 & 2 & 0 \end{bmatrix}$ then the characteristic polynomial for A is

Options :

1. $x^3 + 5x^2 + 8x + 4$ ✖

2. $x^2 + 5x$ ✖

3. $x^3 - 5x^2 + 8x - 4$ ✔

4. $x^2 + 5x + 4$ ✖

Question Number : 85 Question Id : 54947026907 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

The vector (x, y) and $(-y, x)$ with respect to standard inner product are

Options :

1. ✖ Orthonormal

2. ✔ Orthogonal

3. ✖ Continuous

4. ✖ Discontinuous

Question Number : 86 Question Id : 54947026908 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

If n(A) = 4, n(B) = 3, n(A x B x C) = 24, then n(C) =

Options :

1. ✖ 288

2. ✖ 1

3. ✖ 12

4. ✔ 2

Question Number : 87 Question Id : 54947026909 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

The values of λ for which the equations

$$(\lambda-1)x+(3\lambda+1)y+2\lambda z=0$$
$$(\lambda-1)x+(4\lambda-2)y+(\lambda+3)z=0$$
$$2x+(3\lambda+1)y+3(\lambda-1)z=0$$

are consistent.

Options :

1. ✖ 1,1,1

2. ✖ 2,2,2

3. ✔ 0,3,3

4. ✖ 1,2,3

Question Number : 88 Question Id : 54947026910 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

If A and B are symmetric matrices of same order, then

Options :

1. ✔ AB is symmetric if and only if AB = BA

2. ✖ AB is always symmetric

3. ✖ AB is never symmetric

4. ✖ AB is skew-symmetric

Question Number : 89 Question Id : 54947026911 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Given $(\alpha + i\beta,\ a + ib),\ \alpha,\ \beta,\ a,\ b\ \in R$

Options :

1. ✔ $a\,\beta = b\alpha$ then this set form a basis for vector space C over R

2. ✖ $\frac{a}{\beta} = \frac{b}{\alpha}$ then this set form a basis for vector space C over R

$\frac{a\ b}{\alpha\ \beta}$ then this set form a basis for vector space C over R

3. ✖

$\frac{a\ \alpha}{b\ \beta}$ then this set form a basis for vector space C over R

4. ✖

Question Number : 90 Question Id : 54947026912 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

If $F(X)$ is the vector space of all polynomials in one indeterminate X over the field F, the infinite set $1,\ X, X^2,\ .\ .\ .$ is

Options :

Linearly dependent

1. ✖

Linearly independent

2. ✔

Continuous

3. ✖

Discontinuous

4. ✖

Question Number : 91 Question Id : 54947026913 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

For a Classical Probability the events must be

i) Equally likely,
ii) Mutually Exclusive,
iii) Exhaustive,
iv) Independent,
v) Disjoint

Options :

1. ✖ (iv),(v), are True

2. ✖ (iii),(iv),(v) are true

3. ✔ (i), (ii), (iii) are true

4. ✖ (ii),(iv),(v) are true

Question Number : 92 Question Id : 54947026914 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

The probability of choosing a random number that is divisible by 6 or 8 from among numbers 1 to 90 is

Options :

1. ✔ 23/90

2. ✖ 5/30

3. ✖ 11/90

4. ✖ 1/30

Question Number : 93 Question Id : 54947026915 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Consider a hand of five cards in a game of poker. Let the cards be dealt at random. If A = {at least 4 cards of spades} and B = {all 5 cards of spades}, then $P(B|A)$ is

Options :

1. ✖ $\frac{\binom{13}{5}}{\binom{13}{4}\binom{39}{1}+\binom{52}{5}}$

2. ✖ $\frac{\binom{52}{13}}{\binom{13}{4}\binom{39}{1}+\binom{13}{5}}$

3. ✔ $\frac{\binom{13}{5}}{\binom{13}{4}\binom{39}{1}+\binom{13}{5}}$

4. ✖ $\frac{\binom{52}{5}}{\binom{13}{4}\binom{39}{1}+\binom{13}{5}}$

Question Number : 94 Question Id : 54947026916 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

The joint distribution of X and Y is as given in the following table

		Y		
		-1	0	1
X	-1	0	$2p$	0
	0	p	$2p$	p
	1	p	$2p$	p

Then $E(X)$ and $E(Y)$ are respectively.

Options :

1. ✖ 0 and $2p$

2. ✔ $2p$ and 0

3. ✖ 0 and 0

4. ✖ $2p$ and $2p$

Question Number : 95 Question Id : 54947026917 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Let $\{X_n,\ n \geq 0\}$ be a Markov chain with three states $0, 1, 2$ and with transition matrix

$$\begin{bmatrix} 3/4 & 1/4 & 0 \\ 1/4 & 1/2 & 1/4 \\ 0 & 3/4 & 1/4 \end{bmatrix}$$ and the initial distribution $P[X_0 = i] = \frac{1}{3}, \quad i = 0,1,2.$

Then $P[X_2 = 2, X_1 = 1 \mid X_0 = 2]$ is

Options :

1. ✖ $\frac{3}{4}$

2. ✖ $\frac{1}{4}$

3. ✔ $\frac{3}{16}$

4. ✖ $\frac{1}{16}$

Question Number : 96 Question Id : 54947026918 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 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

Options :

1. ✖ 'a' is absorbing barrier, 'b' is Elastic barrier

2. ✖ 'b' is Absorbing barrier, 'a' is Reflecting barrier

3. ✖ 'a' is Elastic barrier, 'b' is Reflecting barrier

4. ✔ 'a' is Absorbing barrier, 'b' is Reflecting barrier

Question Number : 97 Question Id : 54947026919 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Let X_1 and X_2 be two independent Poisson variates with parameters λ_1 and λ_2 respectively. Then $X_1 - X_2$ is

Options :

1. ✖ Binomial variate

2. ✖ Negative binomial variate

3. ✖ Poisson variate

4. ✔ Not a Poisson variate

Question Number : 98 Question Id : 54947026920 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 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 gambler's ruin problem

4. ✖ Bivariate random walk of a drunkard

Question Number : 99 Question Id : 54947026921 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Let $X \sim exp(\theta)$. Then $\bar{X}$ is unbiased for

Options :

1. ✔ $\frac{1}{\theta}$

2. ✖ θ

3. ✖ $\frac{1}{\theta^2}$

4. ✖ θ^2

Question Number : 100 Question Id : 54947026922 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

If T_n is unbiased and consistent for θ then

Options :

1. ✖ T_n^2 is unbiased and consistent for θ^2.

2. ✖ T_n^2 is unbiased but not consistent for θ^2.

3. ✔ T_n^2 is biased but consistent for θ^2.

4. ✖ T_n^2 is biased and not consistent for θ^2.

Question Number : 101 Question Id : 54947026923 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

If X is a random variable which has Normal Distribution with Mean = 0 and Variance = 1, then the correlation coefficient between X and Y when they are related as $Y=X^2$

Options :

1. ✖ Equal to -1

Equal to +1

2. ✖

Undefined

3. ✖

Equal to Zero

4. ✔

Question Number : 102 Question Id : 54947026924 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

The cumulative distribution function of a discrete random variable defined as $F(-\infty)$ and $F(+\infty)$ are equal to

Options :

1. ✖ 1 and 0

2. ✖ 1 and 1

3. ✖ 0 and 0

4. ✔ 0 and 1

Question Number : 103 Question Id : 54947026925 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

The density function of minimum order statistics, Y_1 is

Options :

1. ✖ $n\,[1 - F_X(y_1)]^n\, f_X(y_1)$

2. ✖ $[1 - F_X(y_1)]^{n-1}\, f_X(y_1)$

3. ✖ $n\,[1 - F_X(y_1)]^{n-1}$

4. ✔ $n\,[1 - F_X(y_1)]^{n-1}\, f_X(y_1)$

Question Number : 104 Question Id : 54947026926 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Critical region of size α which minimized β amongst all critical regions of size α is called

Options :

1. ✖ powerful critical region

2. ✖ minimum critical region

3. ✔ best critical region

4. ✖ worst critical region

Question Number : 105 Question Id : 54947026927 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Arithmetic Mean (A.M.) of 'n' numbers of a series is $\overline{X}$. After calculations, it was observed that two number 'a' and 'b' are misread in the place of 'c' and 'd'. What is the corrected mean value?

Options :

1. ✔ $\frac{n\overline{X}-(a+b)+(c+d)}{n}$

2. ✖ $\frac{\overline{X}-(a+b)+(c+d)}{n}$

3. ✖ $$\frac{n\overline{X}-(a+b)+(c+d)}{(n+1)}$$

4. ✖ $$\frac{n\overline{X}-(a+b)+(c+d)}{(n-1)}$$

Question Number : 106 Question Id : 54947026928 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Which type of Skewness is observed with the following Probability Distribution?

X:	1	2	3	4	5	6	7	8	9
P(X):	0.1	0.2	0.23	0.15	0.10	0.06	0.03	0.02	0.01

Options :

1. ✔ Positive

2. ✖ Negative

3. ✖ Unimodal Symmetric

Bimodal Symmetric

4. ✖

Question Number : 107 Question Id : 54947026929 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

The mean and variance of a sequence of numbers are 5, 4. If number 10 is added to each observation of the data, then new mean and variance are

Options :

14,15

1. ✖

15,14

2. ✖

15,4

3. ✔

5,14

4. ✖

Question Number : 108 Question Id : 54947026930 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

If $P(A|B) = 1$ then the relation between the events A,B is

Options :

1. ✔ Event B is subset of Event A

2. ✖ Event A is sub set of Event B

3. ✖ A and B are Disjoint Events

4. ✖ A and B are equally likely events

Question Number : 109 Question Id : 54947026931 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Let $X_1, X_2, \ldots, X_n$ be a random sample from $U(0, \theta)$ distribution. Then the asymptotically unbiased estimator of θ is

Options :

1. ✔ $\underline{Y_n}$

2. ✖ $\bar{X}$

3. ✖ $\frac{\bar{X}}{2}$

4. ✖ Y_1

Question Number : 110 Question Id : 54947026932 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Let $X \sim N(\mu, \sigma^2)$. Then 99% confidence interval for μ when σ^2 know is

Options :

1. ✖ $\left(\bar{X} - 1.96\ \frac{\sigma}{\sqrt{n}}\ ,\ \bar{X} + 1.96\ \frac{\sigma}{\sqrt{n}}\right)$

2. ✔ $\left(\bar{X} - 2.58\ \frac{\sigma}{\sqrt{n}}\ ,\ \bar{X} + 2.58\ \frac{\sigma}{\sqrt{n}}\right)$

$$\left(\bar{X} - 1.96\,\frac{\sigma}{\sqrt{n}}\,,\ \bar{X} + 2.58\,\frac{\sigma}{\sqrt{n}}\right)$$

3. ✖

$$\left(\bar{X} - 2.58\,\frac{\sigma}{\sqrt{n}}\,,\ \bar{X} + 1.96\,\frac{\sigma}{\sqrt{n}}\right)$$

4. ✖

Question Number : 111 Question Id : 54947026933 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Logistic regression can be applied if the response variable has

Options :

1. ✖ only one outcome

2. ✔ only two outcomes

3. ✖ only three outcome

4. ✖ any number of outcomes

Question Number : 112 Question Id : 54947026934 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

In 2^2 factorial design, the interaction effect AB is defined as

Options :

1. ✖ $\frac{1}{2}[(ab)+(a)+(b)+(1)]$

2. ✖ $\frac{1}{2}[[ab]-[a]-[b]+[1])]$

3. ✔ $\frac{1}{2}[(ab)-(a)-(b)+(1)]$

4. ✖ $\frac{1}{2}[[ab]-[a]-[b]-[1])]$

Question Number : 113 Question Id : 54947026935 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

A discrete random variable X takes the values 1, 2, 3 and 4 such that $3P(X=1) = 2P(X=2) = 5P(X=3) = P(X = 4)$. Then $P(X = 3)$ is equal to

Options :

1. ✔ 6/61

2. ✖ 3/61

3. ✖ 2/61

4. ✖ 1/61

Question Number : 114 Question Id : 54947026936 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

The following test statistics are required for testing the significance of

i) difference between several means,

ii) Difference between two means,

iii) difference between two variances are

Options :

(i) Chi square, (ii) t and (iii) F

1. ✖

(i) Z, (ii) F and (iii) t

2. ✖

(i) t, (ii) Z and (iii) Chi-square

3. ✖

(i) F, (ii) t and (iii) F

4. ✔

Question Number : 115 Question Id : 54947026937 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

If $X \sim N(\mu, \sigma^2)$ then $E(s^2) \neq \sigma^2$ but $E(S^2) = \sigma^2$ where $S^2 =$

Options :

$$\frac{1}{n}\sum_{i=1}^{n}\left(x_i - \bar{x}\right)^2$$

1. ✖

$$\frac{1}{n-1}\sum_{i=1}^{n}\left(x_i - \bar{x}\right)^2$$

2. ✔

3. ✖ $\sum_{i=1}^{n}\left(x_i-\bar{x}\right)^2$

4. ✖ $\sqrt{\sum_{i=1}^{n}\left(x_i-\bar{x}\right)^2}$

Question Number : 116 Question Id : 54947026938 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Let $s_c^2=\frac{\text{C.S.S}}{m-1}, s_E^2=\frac{\text{E.S.S}}{(m-1)(m-2)}$ and let the rows will be considered as blocks, then the relative efficiency of L.S.D. over R.B.D. is

Options :

1. ✖ $\frac{s_c^2+s_E^2}{ms_E^2}$

2. ✖ $\frac{s_c^2+(m+1)s_E^2}{ms_E^2}$

3. ✖ $\frac{s_c^2 + (m-2)s_E^2}{ms_E^2}$

4. ✔ $\frac{s_c^2 + (m-1)s_E^2}{ms_E^2}$

Question Number : 117 Question Id : 54947026939 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Complete the following ANOVA table:

Source of variation	D.F.	S.S.	M.S.
Blocks	x – 1	90	30
Treatments	4	100	25
Error	12	120	10
Total	19	--	--

Options :

1. ✔ x = 4

2. ✖ x = 3

$x = 6$

3. ✖

$x = 5$

4. ✖

Question Number : 118 Question Id : 54947026940 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

In a split plot design with Factor A at 'p' levels in main plots, Factor B at 'q' levels in sub-plots and 'r' replications, the degrees of freedom for sub-plot error is

Options :

1. ✔ $p(q-1)(r-1)$

2. ✖ $(q-1)(r-1)$

3. ✖ $q(r-1)(p-1)$

4. ✖ $(p-1)(q-1)(r-1)$

Question Number : 119 Question Id : 54947026941 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 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 :

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

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

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

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

Question Number : 120 Question Id : 54947026942 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

In simple random sampling with replacement variance of sample mean is equal to

Options :

1. $\left(\frac{1}{n}-\frac{1}{N}\right)S^2$ ✔

2. $\left(\frac{1}{N}-\frac{1}{n}\right)S^2$ ✖

3. $\left(\frac{1}{n+1}-\frac{1}{N-1}\right)s^2$ ✖

4. $\left(\frac{1}{n}-\frac{1}{N+1}\right)S^2$ ✖

Question Number : 121 Question Id : 54947026943 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 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, E{X(t)}=1, V{X(t)}=2at+1, then {X(t)} is

Options :

1. Stationary Process ✖

2. Evolutionary Process ✔

3. Markov Process ✖

4. Logarithmic Process ✖

Question Number : 122 Question Id : 54947026944 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

The unbiased Estimator of σ^2 for the model, If $Y=X\beta+\varepsilon$ where X is $n\times k+1$ matrix of rank $(k+1)<n$

Options :

1. ✖ $$\hat{\sigma}^2 = \frac{E(SSE)}{n-1}$$

2. ✖ $$\hat{\sigma}^2 = \frac{E(SSE)}{k-1}$$

3. ✔ $$\hat{\sigma}^2 = \frac{E(SSE)}{n-k-1}$$

4. ✖ $$\hat{\sigma}^2 = \frac{E(SSE)}{n-k+1}$$

Question Number : 123 Question Id : 54947026945 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 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 χ^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 of multivariate Poisson distribution;

v) It is developed as a special case of Multinomial Distribution.

Options :

(iv), (iii), (v) are True

1. ✖

(i), (ii), (iii) are True

2. ✔

(ii), (v), (iv) are True

3. ✖

(iii), (iv), are True

4. ✖

Question Number : 124 Question Id : 54947026946 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

The test statistics required for testing the significance of (1) difference between several means and (2) difference between two variances are

Options :

Chi-square and F

1. ✖

Z and t

2. ✖

t and Chi-square

3. ✖

F and F

4. ✔

Question Number : 125 Question Id : 54947026947 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

B(m,n) is beta function having the following relation

Options :

$\Gamma(m)\Gamma(n)/\Gamma(m-n)$

1. ✖

$\Gamma(m+1)\Gamma(n+1)/\Gamma(m+n)$

2. ✖

$\Gamma(m+n)/\Gamma(m)\Gamma(n)$

3. ✖

$\Gamma(m)\Gamma(n)/\Gamma(m+n)$

4. ✔

Question Number : 126 Question Id : 54947026948 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

The standard error of sampling distribution of $\bar{y}_n$ for a population with size N is

Options :

$$\left(\frac{N-1}{N}\right)\frac{S}{\sqrt{n}}$$

1. ✖

$$\left(\frac{N-1}{N}\right)^2\frac{S}{n}$$

2. ✖

3. ✖ $\sqrt{\frac{n}{N-1}}\frac{S}{\sqrt{N}}$

4. ✔ $\sqrt{\frac{N-1}{N}}\frac{S}{\sqrt{n}}$

Question Number : 127 Question Id : 54947026949 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Which of the following is an example of Non-Statistical Sampling?

Options :

1. ✖ Sequential sampling

2. ✖ Attribute sampling

3. ✔ Haphazard sampling

4. ✖ Random sampling

Question Number : 128 Question Id : 54947026950 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

In M/M/1: ∞/FIFO model, The $P(n \geq k)$ =

Options :

1. ✖ $(1-\rho)\rho /(1-\rho)$

2. ✖ $(1-\rho) /(\rho)$

3. ✖ $\rho^n /(1-\rho)$

4. ✔ $(1-\rho)\rho^n /(1-\rho)$

Question Number : 129 Question Id : 54947026951 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Which of the following distributions are involved in median test?

Options :

1. ✖ Geometric, Exponential and Normal

2. ✔ Hyper geometric, Normal and Chi square

3. ✖ Lognormal, Binomial and Normal

4. ✖ Poisson, Beta and Power series

Question Number : 130 Question Id : 54947026952 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

If two Latin squares of the same order, but with set of symbols and if one is super imposed on the other each symbol of one falls on each symbol of the other once and only once, then the two Latin square are said to be

Options :

1. ✖ Independent

2. ✖ Identical

3. ✔ Orthogonal

Normal

4. ✖

Question Number : 131 Question Id : 54947026953 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

If $X \sim N(\mu,\sigma^2)$, and μ is assumed to be known, then M.L.E of σ^2 is

Options :

1. ✖ $\frac{1}{n-1}\sum_{i=1}^{n}(x_i-\mu)^2$

2. ✖ $(1/n\text{-}1)\sum_{i=n}^{n}(x_i-\mu)$

3. ✔ $(1/n)\sum_{i=1}^{n}(x_i-\mu)^2$

4. ✖ $(1/n)\sum_{i=1}^{n}(x_i-\mu)$

Question Number : 132 Question Id : 54947026954 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Which one of the following in a linear contrast of the treatment effects T_1, T_2, T_3, T_4.

Options :

1. ✖ $3T_1 + T_2 - 3T_3 + T_4$

2. ✖ $T_1 + 3T_2 - 3T_3 + T_4$

3. ✔ $-3T_1 - T_2 + T_3 + 3T_4$

4. ✖ $T_1 + T_2 + T_3 - T_4$

Question Number : 133 Question Id : 54947026955 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

The total number of possible samples of size 2 that can be drawn from a population with 5 units in the cases of With and without replacements respectively are

Options :

1. ✖ 5 & 10

2. ✖ 15 & 20

3. ✔ 25 & 10

4. ✖ 20 & 15

Question Number : 134 Question Id : 54947026956 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Let $f(x) = \frac{1}{2}$, $-1 < x < 1$, zero elsewhere, be the p.d.f. of the random variable X. Then the p.d.f. of $Y = X^2$ is

Options :

1. ✔ $\frac{1}{2\sqrt{y}}$, $0 < y < 1$, zero elsewhere

2. ✖ $\frac{1}{\sqrt{y}}$, $0 < y < 1$, zero elsewhere

3. ✖ $\frac{1}{2\sqrt{y}}$, $-1 < y < 1$, zero elsewhere

4. ✖ $\frac{1}{2\sqrt{y}}$, $-1 < y < 0$, zero elsewhere

Question Number : 135 Question Id : 54947026957 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Let $X \sim P(3n)$. By central limit theorem the limiting distribution of $Y = \frac{X-3n}{\sqrt{3n}}$ is

Options :

1. ✖ $P(n)$

2. ✖ $P(3)$

3. ✔ $N(0,1)$

4. ✖ $P\left(\frac{n}{3}\right)$

Question Number : 136 Question Id : 54947026958 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Let $y'_{.j}$ be the Total of known values of j^{th} column; $y'_{i.}$ be the Total of known values of i^{th} row; $y'_{..}$ be the Total of all (rt-1) known values; 'r' be the number of blocks and 't' be the number of treatments, then the missing plot in R.B.D is x=

Options :

1. ✔ $\frac{r.y'_{.j} + t.y'_{i.} - y'_{..}}{(r-1)(t-1)}$

2. ✖ $\frac{r.y'_{.j} + t.y'_{i.} - y'_{..}}{(r+1)(t+1)}$

3. ✖ $\frac{r.y'_{.j} - t.y'_{i.} + y'_{..}}{(r-1)(t-1)}$

4. ✖ $\frac{r.y'_{.j} + t.y'_{i.} - y'_{..}}{(2r-1)(2t-1)}$

Question Number : 137 Question Id : 54947026959 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Which of the following design is having the equal number of treatments and replications?

Options :

1. ✖ Completely Randomized Design

2. ✖ Randomized Block Design

3. ✔ Latin Square Design

4. ✖ Split Plot Design

Question Number : 138 Question Id : 54947026960 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

The transition probabilities are $P_{00}=1/2$; $P_{11}=2/3$; then $P_{10}^{(2)}=$

Options :

1. ✔ 7/18

2. ✖ 7/12

3. ✖ 5/12

4. ✖ 11/18

Question Number : 139 Question Id : 54947026961 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

The components of lead time are

Options :

1. ✖ administrative lead time only

2. ✖ delivery lead time only

3. ✔ both administrative and delivery lead times

neither administrative lead time nor delivery lead time

4. ✖

Question Number : 140 Question Id : 54947026962 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

In $(M/M/C) : (N/FIFO)$ model the expected waiting time in the queue when λ is the arrival rate and μ is the service rate is

Options :

1. ✖ expected waiting time in the system $-\frac{1}{\lambda}$

2. ✖ expected waiting time in the system $+\frac{1}{\lambda}$

3. ✔ expected waiting time in the system $-\frac{1}{\mu}$

4. ✖ expected waiting time in the system $+\frac{1}{\mu}$