



Chhatrapati Shahu Ji Maharaj  
University, Kanpur

**Answer Script Details**  
**Barcode** 6888213

**Roll No.** 23072000277  
**Total Mark** 46/75.00

**Exam** BACHELOR OF COMMERCE\_DEC-2023  
**Subject** C010102T - BUSINESS STATISTICS

**Question wise Mark Summary**

**Q.No Mark Q.No Mark Q.No Mark Q.No Mark**

1A 3/5

1B 3/5

1C 3/5

1D 3/5

1E 3/5

1F 3/5

1G 2/5

1H 2/5

1I 3/5

2 NA/15

3 NA/15

4 10/15

5 NA/15

6 11/15

7 NA/15

8 NA/15

9 NA/15

# Chhatrapati Shahu Ji Maharaj University Kanpur, Uttar Pradesh

## PART-II

### MARKS OBTAINED

Q.	1	2	3	4	5	6	7	8	9	10
(a)										
(b)										
(c)										
(d)										
(e)										
(f)										
(g)										
(h)										
(i)										
(j)										
Total										
Total Marks in Figures									Max. Marks	
Total Marks in Words										



**CO10102T**  
Paper Code

Signature of Evaluator

Date of Exam: 31/01/2024 (Shift) 1<sup>st</sup> Route No. 02  
 Paper Code: CO10102T Subject: BUSINESS STATISTICS 1<sup>st</sup>  
 Name of Candidate: DISHA PORWAL  
 Roll No. 23072000977

Signature of Candidate: *Disha*  
 Signature of Invigilator: *[Signature]*  
 COE Facsimile: *[Signature]*

Course: **BACHELOR OF COMMERCE**

Session: **2023-24** Year/Semester: **1<sup>st</sup>**

Subject Name: **BUSINESS STATISTICS**

Medium: English  Hindi

Paper Code: **CO10102T**  
Exam Date: **31012024**

Name of Candidate: **DISHA PORWAL**

Father's Name: **PRAVEEN KUMAR**

संस्थान का कोड  
College Code

परीक्षा केंद्र का कोड  
Exam Centre Code

**EW02**

A	A	0	0
B	1	1	1
F	D	2	2
H	J	3	3
K	K	4	4
L	L	5	5
R	M	6	6
S	N	7	7
U	T	8	8
U	9	9	9

**EW02**

A	A	0	0
B	1	1	1
F	D	2	2
H	J	3	3
K	K	4	4
L	L	5	5
R	M	6	6
S	N	7	7
U	T	8	8
U	9	9	9

परीक्षा का प्रकार  
Type of Exam

Regular  Ex-Student   
 Other  Back Paper Exam

ANSWER BOOKLET NO.

**6888213**

**CO10102T**  
Paper Code



Enrolment Number: **CSJMA23000131507**

उम्मीदवार का क्रमांक Candidate's Roll Number

परीक्षा कोड Paper Code

**23072000277**

0	0	0	0	0	0	0	0	0	0
1	1	1	1	1	1	1	1	1	1
2	2	2	2	2	2	2	2	2	2
3	3	3	3	3	3	3	3	3	3
4	4	4	4	4	4	4	4	4	4
5	5	5	5	5	5	5	5	5	5
6	6	6	6	6	6	6	6	6	6
7	7	7	7	7	7	7	7	7	7
8	8	8	8	8	8	8	8	8	8
9	9	9	9	9	9	9	9	9	9

**CO10102T**

A	0	0	0	0	N
B	1	1	1	1	P
2	2	2	2	2	R
E	3	3	3	3	
F	4	4	4	4	
G	5	5	5	5	
Z	6	6	6	6	
W	7	7	7	7	
W	8	8	8	8	
9	9	9	9	9	

*Disha*  
Signature of Candidate

*[Signature]*  
Signature of Invigilator

**परिषद् केन्द्राध्यक्ष**  
C S Facsimile

*[Signature]*  
COE Facsimile

नोट- 1. परीक्षार्थी को निर्दिष्टित किया जाता है कि आवरण पत्रों के पृष्ठ धारा पर अधिकतम सभी निर्देशों को सावधानी पूर्वक पढ़ें।  
 2. परीक्षा में धरो जाने वाली प्रतिलिपियाँ बारी तर्क से शुद्ध की जाएँ। 3. मोलों को बचाने पर नीले कलम/पेन से धारा जाएँ।

### INSTRUCTION TO THE CANDIDATE FOR FILLING PART-I

1. Read the instructions carefully given on the answer script and admit card.
2. Write Date of Exam, Shift, Paper Code & Name of Subject Correctly.
3. Write Name & Roll No. Correctly.
4. Write Semester & Branch Correctly.

### INSTRUCTION TO THE CANDIDATE FOR FILLING PART-III

Use blue or black ball point pen for writing alphabets & numerals in  boxes.

2. Carefully study the example before you start marking.
3. As shown in the example below, blacken the circles completely.



4. Make no Stray marks on this sheet.

### 5. DO NOT WRITE OR MARK ON THE BAR CODE.

### IN ORDER TO AVOID UFM ( UNFAIR MEANS ) :

1. The Roll No. and Answer Book no. found elsewhere or any other symbol found in the answer book will be treated as unfair means.
2. Any tampering of Bar Code and Booklet no shall be treated as Unfair Means.
3. Do Not bring the materials like slip of paper/mobile/digital diaries/ study material/ revision notes in examination hall. Possession of the mobile/ digital diaries/electronic/digital/ watch and any other electronic gadget except memory less scientific calculator shall be considered as UFM case.
4. Do not keep or paste currency note in answer script it shall be consider as UFM.

### अनुचित साधन से बचने हेतु :

1. उत्तर पुस्तिका के निर्दिष्ट स्थान को छोड़कर अनुक्रमांक एवं उत्तरपुस्तिका का क्रमांक कहीं और न लिखें तथा कोई भी चिह्न न बनायें क्योंकि यह अनुचित साधन प्रयोग की परिधि में आता है।
2. उत्तर पुस्तिका के साफकोड अथवा उत्तर पुस्तिका संख्या पर छेद छद्म करने पर अनुचित साधन प्रयोग माना जावेगा।
3. परीक्षा कक्ष में विभिन्न बस्तुएं साथ न लायें, जैसे लिखे हुए सामान के टुकड़े, मोबाइल, डिजिटल डायरी, डिजिटल घड़ी, कैंटी, घुलक या सभी बस्तुएं जो अनुचित साधन के अंतर्गत आती हैं। कोला संशोधन प्रणालय में ही बेधोरी लेस सॉर्टिंग/कॉम्प्यूटर ले जाने की अनुमति होगी।
4. उत्तर पुस्तिकाओं में रूपरे न रखें न ही उत्तर पुस्तिका में बिचकवें। ऐसा करना अनुचित साधन प्रयोग की परिधि में आता है।

### उत्तरपुस्तिकाओं को भरने का तरीका

1. प्रवेश पत्र एवं उत्तर पुस्तिका पर दिये गये निर्देशों को ध्यान से पढ़ें।
2. कवर पृष्ठ के दूसरी तरफ कुछ न लिखें।
3. उत्तर पुस्तिका के पृष्ठों पर दोनो तरफ लिखें।
4. प्रश्न पत्र पर अपने अनुक्रमांक के अतिरिक्त कुछ न लिखें।
5. प्रश्न पत्र कोड एवं प्रश्न पत्र ID साफकानो पूरेक लिखें।
6. अपनी स्थिति स्पष्ट लिखें।
7. उत्तर पुस्तिका के पृष्ठों की संख्या देखें। अगर उत्तर पुस्तिका में पृष्ठ ( 1-24) से कम है या कटे हुए हैं, तो पत्र शुरू होने के पूर्व दूसरी उत्तर पुस्तिका ले लें।
8. प्रश्नपत्र को देख, यदि प्रश्नपत्र के विषय कोड, विषय का नाम तथा प्रश्न में कोई त्रुटि है तो परसके परीक्षा होने के 30 मिनट के अन्दर यथा निरिच्छक को तत्काल सूचित करें, उसको बाद रचिचिदात्मक द्वारा कोई न बही की जावेगी।
9. प्रश्नों के उत्तर लिखने के लिये पेंसिल का प्रयोग न करें।
10. बी जोड़े या अतिरिक्त पत्र नही दिया जावेगा।

### INSTRUCTION TO THE CANDIDATE

1. Read the instructions carefully given on the Question Paper, Admit Card & Answer Script.
2. Do not write anything on back side of the cover page.
3. Write on both sides of pages of answer book.
4. Do not write anything on question paper except Roll Number.
5. Write Paper Code & Question Paper Id carefully.
6. CHECK the number of pages ( 1-24) or any other kind of damage in your answer script, if found than change the answer script immediately before the commencement of examination.
7. CHECK the Question Paper for any kind of discrepancy e.g. Subject Code, S. Name, and Question of the Question Paper during first THIRTY MINUTES of commencement of the exam, so that it can be corrected in TIME. After that no corrections shall be entertained by the university.
8. Do not use pencil for answering the question.
9. Write status correctly e.g. those appearing in carry over papers should fill in status as Carry Over. Those appearing as Ex- Students should fill in status as ex.
10. No supplementary answer book & graph paper will be provided.

### INSTRUCTION TO THE CANDIDATE FOR FILLING PART-IV

1. Use blue or black ball point pen for writing alphabets & numerals in  Boxes.
2. Use blue or black ball point pen for filling the circles.

	1	8	1	5	4	3	2	1	6	9
0	0	0	0	0	0	0	0	0	0	0
1	●	1	●	1	1	1	1	●	1	1
2	2	2	2	2	2	2	2	●	2	2
3	3	3	3	3	3	●	3	3	3	3
4	4	4	4	4	●	4	4	4	4	4
5	5	5	5	●	5	5	5	5	5	5
6	6	6	6	6	6	6	6	6	●	6
7	7	7	7	7	7	7	7	7	7	7
8	8	●	8	8	8	8	8	8	8	8
9	9	9	9	9	9	9	9	9	9	●

Note- If your Roll No. is of 10 digits. Please leave first three columns .



Paper Code

C010102T



1

Section A

## Answer 1(A)

Indian Statistics is a concept which is researched or discovered by Professor Prashanta Chandra Mahalanabis. He is the father of Indian statistics. He was born in Kolkata, West Bengal, India.

The word statistics has been derived from Latin word 'status', Italian word 'statista', German word 'statistika' and French word 'statistique' of which means a political state.

# The word statistics has been defined into two ways:-

1) In singular sense:- Statistic is the science which deals with the collection, classification, editing, presenting, comparing, analysing and interpreting the data to throw some light on any sphere of enquiry.

# It is the means through which one can collect & analyse the data.



Paper Code

CO10102T



2

2) In Plural sense :- Statistics is a group of various methods, techniques and principles to draw proper conclusion.

### Features in Indian Statistics

1) Aggregate of facts :- It includes only collected data not a single data.

2) Numerically expressed terms :- Statistics are expressed in numeric value.

3) The data collected through enumerator or estimation :- It should be collected by a proper organised institution.

4) Having objective :- It have the purpose to collect the data.

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Do Not Write anything in this Portion





Paper Code

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3

## Answer 1(B)

Correlation:- Correlation means the data of two different series are having some causal connection or relation.

Correlation is the means or method through which we can examine the relationship between two or more person.

Meaning of correlation:-

1) Relationship between two different series of data:- It is the procedure through which one can examine Relationship b/w the series.

2) Original Data:- The data should be original and accurate of both the series.

3) Quantitative Terms:- The data should be expressed in quantitative terms not qualitative.

4) Data should be homogeneous nature:- The data of two series which has to be



Paper Code

CO10102T



4

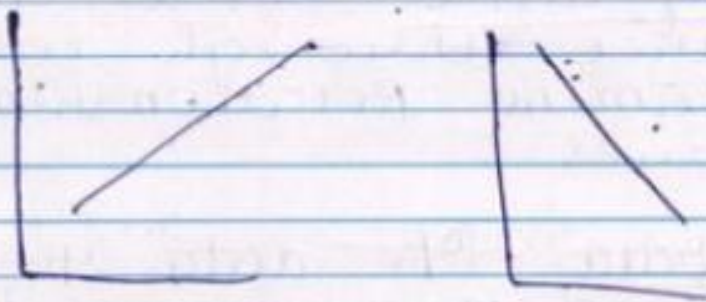
compared should be similar or identical.

5) Comparative Study :- the characteristics or features of the data should be comparative enough.

6) Correlation can be categorised into two.

1. Positive correlation :- It refers to the value which is positive (+ve)

2. Negative correlation :- It refers to the value which is negative (-ve)



Example of clinical correlation



Answer 1(c)

Partial Association:- It refers to the association which is formed for the specific or some specific work. It refers to the association in which the work has been ~~partly~~ operated by semi-government officials.

It is the association which has the objective to provide the data to the required institution & released the accurate & reports to the world.

Illusory Association:- It refers to the independent association in which the objective of an association is illustrated or pre-determined. It works for the specified objective and the association requires the high accurate data to be utilised in the institution to achieve pre-determined or illustrated objective.



Answer 1 (D)

# Probable Error :- It refers to detection of an error and irregularity in the statistical data or facts due to some basic misinterpretation and mistake of the investigator or enumerator.

# Probable error is the concept arisen in the correlation.

# Probable error  $\Rightarrow \frac{0.0675(1-\rho)}{\sqrt{N}}$

# Probable error refers to the the uncertainty and misinterpretation in the data or statistical data or facts due to some probability of error.

# The error or probable error can be detected through the experienced statistical investigator. Experienced & Expert Statistical Investigator can check and find out the error in the statistical data or facts.

# Error are the difference of



Paper Code

C010102T



7

actual value and approximated value.

Some quote has been said to investigation

✓  
"Common sense is the chief requisite and experience is the chief teacher."

As the required common sense leads to fast and quick ascertain of error.



Paper Code

C010102T



8

## Answer 1(E)

Correlation refers to the some casual relation or connection betw two different series of data.

Correlation can be further classify into :-

1)

Perfect Correlation :- It refers to the correlation in which the value lies between  $+1$  and  $-1$ . Highly impossible in nature.

2)

Highly correlation :- It refers to the correlation which lies b/w  $\pm 0.90$  to  $\pm 0.0$ .

3) Moderate correlation :- Its value lies between  $\pm 0.75$  to  $\pm 0.90$

4) Low correlation :- Its value lies between  $\pm 0.25$  to  $\pm 0.75$

5) No correlation :- It value lies at zero or  $0$ , when there is no relation b/w series.

Regression :- It refers to the dissimilarity or the situation in which the value of any data



Paper Code

C010102T



9

are highly correlated and they are on its path.

Regression can be defined as the situation when the price of an commodity has been increasing or the other factor increasing.

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X



Answer I(F)

Ratio of Variation :- Variation refers to the difference and distance of a variable from its statistical average.

Variation can be defined as the difference of deviation of any statistical data from its statistical average.

Variation can be defined as the square of standard deviation which it means, it refers to arithmetic mean of all deviation of variable of their arithmetic mean.

Coefficient of variation can be defined as  $\rightarrow \frac{\sigma}{\bar{X}} \times 100$

$\sigma$  = stands for standard deviation in the given formulae.

$$\sigma \Rightarrow \sqrt{\frac{\sum dx}{N}} \text{ or } \sqrt{\frac{\sum |x - \bar{x}|}{N}}$$

$\bar{X}$   $\Rightarrow$  stands for arithmetic mean in which it shows the sum of observation divided number of observation.



Paper Code

CO10102T



11

Variation refers to dissimilarity between the two series of data which is different.

The variation shows the opposite of correlation.

The more variation represent less consistency, comparative and less completeness and less accurate data.

The less variation shows or represents the high level of accuracy, reliability, uniformity and completeness.





Answer 1 (6)

Law of Statistical Regularity :-

The law of statistical regularity states that a statistical data or facts are collected, classified, interpreted, analysed, presented and summarised regularly on the fixed period of time.

Ex:- Census of population should be done after every 10 years which means it is compulsory and mandatory to collect the data at that particular point of time.

Statistical Irregularity has the multiple causes in the world.

As, statistical regularity is one of the important feature of statistics in which it means that collection, analysis, classification of data should be done regularly to bring the advantage in the economy.



Answer 1(H)

Law of Inertia of large number :-

The law of Inertia of large numbers states that any or everything which has been placed at some particular position in a passive position can only be turned active when the required amount of sources or procedures and methods are to be employed on large numbers.

Law of Inertia of large numbers states that every population can find active when there is investigation has done. You can only get the data when the statistical tools and methods and procedures are being utilised.

Law of Inertia of large numbers also states the nature of homogenous and heterogenous population in an economy. As Homogenous means the data which is similar in nature.



Paper Code

CO101027



14

and also it brings the active participation of all types of population in the economy.

Heterogenous nature involves the different characteristics or feature in a population

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Do Not Write anything in this Portion



## Answer 1 (I)

Advantages of Tabulation and/or Importance of tabulation.

- 1) Easy to understand :- The collected or classified data are arranged in columns and rows which makes the presentation easily understandable.
- 2) Precised form of Presentation :- It is short and brief organization of data in which the data has been represented.
- 3) To Saves Time and space :- It is the form of presentation in which it reduces the time and space of collected data.
- 4) To bring the data reliable and more accurate :- This form of presentation of data named tabulation leads to make the data more reliable and accurate.



5) To Bring completeness, consistency in data:- It is form of presentation in which data are presented completely in precised manner as to easy understanding of data.

6) To make the data more attractive:- It is form of presentation which provides delight to eyes.

7) It consists of. Table number, title, Heading, Stub, Caption, Total source and footnote.



Section-BAnswer 4 :-

# Primary Data :- It refers to the data which is collected first time. It is quite natural and original in nature. These data are reliable and more accurate. It has high level of accuracy.

# Primary Data :- It refers to the data which is collected by the investigator (those who collect or investigate the statistical data or facts) and enumerators (those who are the agents of the investigator) for specific purpose and objective.

Ex - Census Population of 1991.

# Sources of Primary Data.

- 1) Direct Investigation or Direct Personal Investigation
- 2) Indirect Personal Investigation
- 3) Investigation through local agents
- 4) Investigation through schedule to be filled by enumerators.
- 5) Investigation through schedule to be filled by informants.
- 6) Investigation through Registration Method.



# Secondary Data :- It refers to the data which is collected by investigator or enumerated through already existed reports or data.

Ex - Easy notes.

# Secondary data are collected from the existed data. It is not highly accurate and reliable.

### Sources of Secondary Data.

- 1) Government Publication
- 2) Non-government or semi-official Publication.
- 3) International Publication
- 4) National Publication
- 5) Reports of Commission & Consultee
- 6) Publication of Trade association and Chamber of commerce.
- 7) Magazines and Newspapers.



Precautions should be taken while using secondary data.

- 1) Purpose of using Secondary data :- The purpose should be valid and relevant enough.
- 2) Scope of Secondary Data :- The forecasting and prediction of this data has some scope in future.
- 3) To check the reliability and accuracy of data :- It is necessary to check the reliability of data.
- 4) The data should be taken from known and honest editor :- The data should be correct and no mistake.
- 5) The data have completeness, consistency and adequacy :- The data should be complete and have the facts that is required in the investigation.
- 6) Nature & Problem of Secondary data also clearly identified.



## SECTION - C

Answer 6

Basis	Primary data	Secondary data
Meaning	The data which is collected first time	The data which is already existed.
Accuracy	It has higher level of accuracy	It has quite low level of accuracy
Source	Direct personal, indirect personal, local agents etc.	Government publication and semi-government publications.
Reliability	It is quite more reliable	It is quite less reliable.
Capital	It requires capital & cost	It has very less cost
Time	It consumes time	It doesn't consume more time

Various method of collecting Primary Data.

\* Direct Personal Investigation :- It refers to investigation in which investigator directly contact with informant.

Merits

1. Confidential Data
2. High degree of accuracy



### Demerits

- 1) Time consuming
- 2) Costly

\* Indirect Personal Oral Investigation:- It refers to investigation in which investigator collect information from the witness of an event and population.

### Merits

- Less time
- Cheap

### Demerits

- Lack of secrecy
- Minimise accuracy.

\* Investigation through local agents:- It refers to the investigation in which data collected through agents.

### Merits

- Reliable information
- Cheap cost

### Demerits

- ~~Has~~ Biased nature of agent
- Misinterpreted information

\* Investigation through Schedules to be filled by informants:- It refers to the informant investigation in which data is collected by filling questionnaire by informant.

- Easy to understand
- Fast Process.



Paper Code

CO10102T



22

### Demerits

1. Mislead of data
2. Over writing chances

\* Investigation through schedules to be filled by enumerator :-  
It refers to the investigation in which the data is obtained and collected through enumerators and agents.

### Merits

- Accurate data
- Reliable data
- Personal contact
- Confidential
- Unbiased

### Demerits

- Time consuming
- Technical in nature
- Illung assumption of data
- Errors.

\* Investigation through Registration Method :- It refers to investigation in which data has been collected through the



Paper Code

CO10102T



23

process of Registration. The Registration process involves the data of an informant which is required in particular purpose.





Paper Code

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24

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X

X