Chhatrapati Shahu Ji Maharaj University, Kanpur

Answer Script Details
Barcode 10504495

Roll No. 24079000007
Total Mark 52/75.00

Exam MASTER OF SCIENCE STATISTICS_ODD EXAM-DEC-2
Subject B060703T - DATA ANALYSIS USING R

Question wise Mark Summary

Q.No	Mark	Q.No	Mark	Q.No	Mark	Q.No	Mark
1A	4/5						
1B	4/5						
1C	2/5						
1D	3/5						
1E	3/5						
1F	4/5						
1G	4/5						
1H	4/5						
1I	2/5						
2	11/15						
3	NA/15						
4	NA/15						
5	NA/15						
6	NA/15						
7	NA/15						
8	11/15						
9	NA/15						

Chhatrapati Shahu Ji Maharaj University
Kanpur, Uttar Pradesh

Date of Exam: 28/1/25 Shift: 1st Room No. 9
Paper Code: Subject: Stats/Ica Year/Sem. 1
Name of Candidate: Divya Dwivedi
Roll No. 2 4 0 7 9 0 0 0 0 0 7

COE Facsimile
Signature of Invigilator
Signature of Candidate
Divya

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										

B 0 6 0 7 0 3 T
Paper Code

Signature of Evaluator

Course: MSC Statistics
Session: 2024-25 Year/Semester: I
Subject: Statistics

Paper Code: B 0 6 0 7 0 3 T
Exam Date: 9 0 1 2 0 2 5
Name of Candidate: D I V Y A D W I V E D I
Father's Name: A N T A R A M D W I V E D I

महाविद्यालय का कोड College Code: K N 0 3
परीक्षा केन्द्र का कोड Exam Centre Code: K N 0 3

परीक्षा का प्रकार Type of Exam
Regular ● Ex Student ○
Private ○ Back paper Exam ○

ANSWER BOOKLET NO.
10504495

B 0 6 0 7 0 3 T
Paper Code

नामांकन संख्या Enrollment Number: C S J M A 2 4 0 0 0 0 0 3 8 2 1

परीक्षार्थी अनुक्रमांक संख्या Candidate's Roll Number: 2 4 0 7 9 0 0 0 0 0 7

पेपर कोड Paper Code: B 0 6 0 7 0 3 T

Divya
Signature of Candidate

Signature of Invigilator

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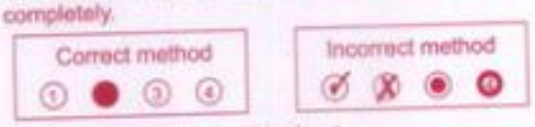
नोट : 1. परीक्षार्थी को निर्देशित किया जाता है कि आंसर पत्रे के मुख्य भाग पर अंकित सभी निर्देशों को सावधानी पूर्वक पढ़ें।
2. बॉक्स में भरी जाने वाली प्रविष्टियाँ काली स्याही से शुरू की जायें। 3. गोलों को काले या नीले बॉलपेन से भरा जायें।

INSTRUCTIONS 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.

INSTRUCTIONS TO THE CANDIDATE FOR FILLING PART-III

1. 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 tempering 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 mobiles/ digital diaries/ electronic 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 निर्देशित स्थान को छोड़कर अनुक्रमांक एवं उत्तरपुस्तिका का क्रमांक कही और न लिखे तथा कोई भी चिन्ह न बनायें क्योंकि यह अनुचित साधन प्रयोग की परिधि में आता है।
2. उत्तर पुस्तिका के बारकोड अथवा उत्तर पुस्तिका संख्या पर छेड़ करने पर अनुचित साधन प्रयोग माना जायेगा।
3. परीक्षा कक्ष में निम्न वस्तुएं साथ न लायें, जैसे लिखे हुए कागज के टुकड़े, मोबाईल, डिजिटल डायरी, कोपी, पुस्तक यह सभी वस्तुएं जो अनुचित साधन के अन्तर्गत आती है। केवल संबंधित प्रश्नपत्र में ही मेमोरी लैस साइंटिफिक केल्कुलेटर ले जाने की अनुमन्यता होगी।
4. उत्तर पुस्तिकाओं में रूपये न रखें न ही उत्तर पुस्तिका में चिपकायें। ऐसा करना अनुचित साधन प्रयोग की परिधि में आता है।

परीक्षार्थी के लिए निर्देश

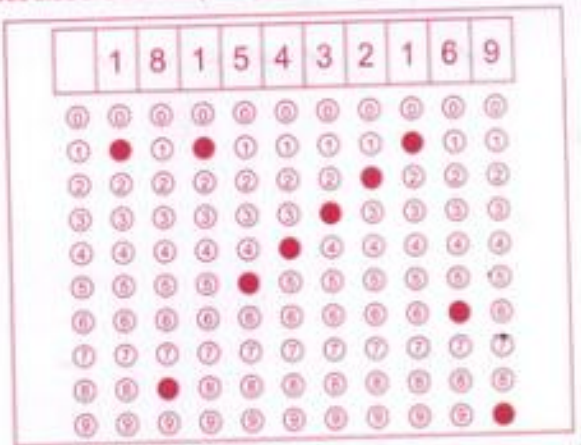
1. प्रवेश पत्र एवं उत्तर पुस्तिका पर दिये गये निर्देशों को ध्यान से पढ़ें।
2. कवर पृष्ठ के दूसरी तरफ कुछ न लिखें।
3. उत्तर पुस्तिका के पृष्ठों पर दोनों तरफ लिखें।
4. प्रश्न पत्र पर अपने अनुक्रमांक के अतिरिक्त कुछ न लिखें।
5. प्रश्न पत्र कोड एवं प्रश्न पत्र कोड सावधानी पूर्वक लिखें।
6. अपनी स्थिति स्पष्ट लिखें।
7. उत्तर पुस्तिका के पृष्ठों की संख्या देखें। अगर उत्तर पुस्तिका में पृ (1–24) से कम है या फटे हुए है, तो परीक्षा शुरू होने के पूर्व दूसरी उत्त पुस्तिका ले लें।
8. प्रश्नपत्र को देख, यदि प्रश्नपत्र के विषय कोड, विषय का नाम तथा प्र में कोई त्रुटि है तो उसके परीक्षा शुरू होने के 30 मिनट के अन्दर क निरीक्षक को तत्काल सूचित करें, उसके बाद विश्वविद्यालय द्वारा क कार्यवाही नहीं की जायेगी।
9. प्रश्नों के उत्तर लिखने के लिये पैंसिल का प्रयोग न करें।
10. B कोपी या अतिरिक्त ग्राफ नहीं दिया जायेगा।

INSTRUCTIONS TO THE CANDIDATE

1. Read the instructions carefully given on the Question Pap 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 (1-32) or any other kind of dama in your answer script, if found than change the answer sc immediately before the commencement of examination.
7. CHECK the Question Paper for any kind of discrepancy Subject Code. Subject Name and Question of the Quest Paper during first THIRTY MINUTES of the commencemen the exam, so that it can be corrected in TIME. After that 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 pap should fill in status as Carry Over. Those appearing as Students should fill in status as ex.
10. No supplementary answer book & graph paper will be provide

INSTRUCTIONS TO THE CANDIDATE FOR FILLING PART-I

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



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

Paper Code

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01

Section- A

1

(a)

R is a free open source software used for Statistical Computing and Graphics. It is used for computing data and analysing data.

It is used for analysis of linear non linear modelling, Time Series analysis.

Due to it is open source, it is used and modify by the various active users.

It is can be run on various platform i.e. Windows, Linux, Macox

R is used for various Calculation of different fields and elements (like vector, Matrices etc)

(b) **Vectors –**

Vector contains set of elements of the same data type.

It is applied on mainly Various data types like

Numeric - It contain real values
Ex- num<-c(1,2,3)

Integer - It contain values
Ex - Inte1 <-c(1L, 2L, 3L)

character - It contain text strings
char<-c("Hello")

logic - It contain Boolean values
log<-c("TRUE")

Complex - It contains complex values.
com<-c(8+7i)

Creating a Vector.

It requires c() to create vector.
data<-c(
Char<-c("Yes")

It requires seq() to create vector.

Seq <- c(1, 2, 3, 4)

Matrix

Matrix is a two dimensional ~~array~~ structure containing n rows and columns.

Matrix Mat <- (data, nrows, ncolv, by row, dime- name)

In Vectors We find the value of single dimension while in Matrix We find value of rows and columns.

Matrix required c bind() and rbind() to combined the Matrices.

In Vectors for combining We can use lists <- list Name = , class =)

for Matrix

Matrix Mat <- (num[1:6], 3 rows, 2 colum)

	[1]	[2]
[1]	1	4
[2]	2	5
[3]	3	6

(C) Packages in R

In statistics R contains different types of packages which contain different types of statistical tools. the basic purpose of packages is used to provide the advancement and au[illegible] tools for Obtaining data.

(d) Accessing the Vector

for accessing the vector We use

Indexing with square bracket [ ]

Indexing in Vector starts from '1' not Zero '0'

Accessing the third element of vector —

```
num <- c(1 2 3 4 5)
num[3] # accessing third element

num <- c(1 2 4 5)
```

Accessing the matrix

matrix <- matrix(x[1:9] 3row, 3colum)

	[1]	[2]	[3]
[1]	1	4	7
[2]	2	5	8
[3]	3	6	9

mat <- [2row, 3col]

		[1]	[2]
~~[1]~~	[1]	1	4
~~[2]~~	[3]	3	6

accessing second row and third column.

(e)

lists contains all the different types of elements. In lists we use list< >

Accessing the second element of a list.

~~lists <~~

~~lists list <- c(No~~

Example-

let take a list containing a data say Name of student, class and Roll number

~~list <~~

~~students <-~~

Students list <- (Name = Meera, diya, Megha,
class = 1 , Age : 10 , 20 , 10)

	Name	class	Age
[1]	Meera	1	10
[2]	diya	1	10
[3]	Megha	1	10

lista <- [2]

	Name	class	Age
[1]	Meera	1	10
[3]	Megha	1	10

(f) Correlation –

Correlation is a type ✓ function which provide the relation between two or more than two variables. We can find correlation by using different functions like forloop

given, V <- (x1 : 6)
for [x : 6]

V <- (1 2 3 4 5 6)
V <- (x : 1 2 3 4 5 6)

(g) ~~for~~ loop

for loop is used to iterate the sequence of the data.

~~V<-c(variables~~

V<-c(vectors in variables)

V<-c(y:10)

Given,
sum of all element

vector v=c(1,2,3,4,5)

V<-c(v1:5)
V<-c(v1:5, sum)
for(v1:5)

We get

V<-c(1+2+3+4+5)
=(15)

(h) Scatter plot -

Scatter plot is used in the data visualization. To see the data insightly

It contained plot( )

with X, Y, labels, poch,

function →

plot <- (xlabels, ylabels, Mains, Poch)

X - It represent X axis
Y - It represents Y axis
Mains - It represents the title
labels - It represents the subject.

set.seed

(1) Set.seed( )

It.seed( ) is used in stimulation of variables to change it Variables into normal distribution.

Set.seed((1 2 3 4 5)

Stimulation Contains different types of function like sample( ), rfunc( ) rfunc) all these are very crucial role in finding their Own. sample( ) is major role in sampling. while set.seed() plays Important role in normal distribution and Testing

Paper Code
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09

Section B

2.

Installation Procedure for R

R is open and free source, highly flexible to use and it is user friendly and it modified by various active Users

To Install R -

Visit the official Website CRAN i.e.

Comprehensive R Archive Network

https://:CRAN.project.org/

After visiting download the Website

Install the R and follow the onscreen instructions

Installation Procedure for R Studio

R Studio is an (IDE) ie Integrated development Enviroment. Which is user friendly and free to use

Paper Code: B 0 6 0 7 0 3 T

10

Do Not Write anything in this Portion

Download R ~~stub~~ studio from the Website.

We can easily download R from the website

After Installing follow the onscreen instructions.

the official website for R studio -

WWW. Rstudio. com.

Section C

Box plot

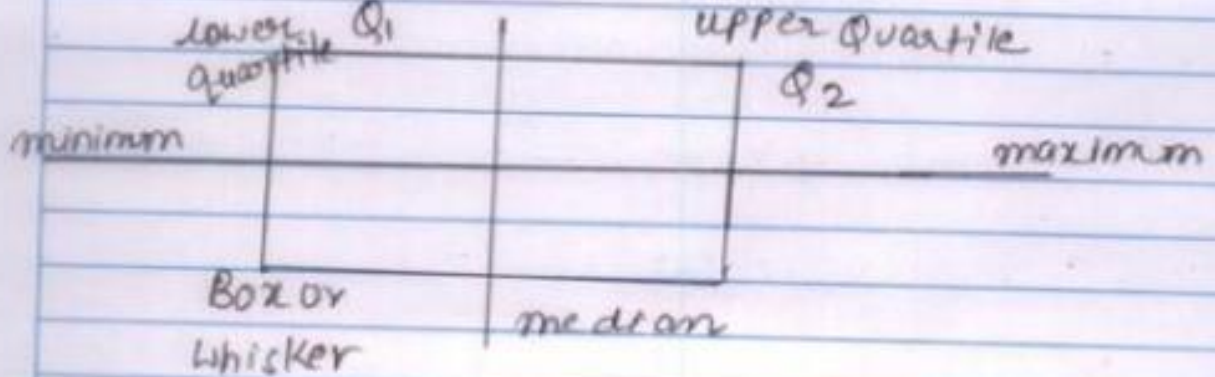
Box plot is (Box or whisker) in a chart one of a rectangular shape containing different elements. It gives insights for the visualization of the data.

Box plot have majorly ~~5~~ database sets which minimum, maximum, and lower and upper quartile and a median.

Box plot is used to give the differences and the middle values.

and it also help to give quantedly data in a distribution.

Here, We can understand it briefly



To creating Boxplot We use

Boxplot( )

It contains Various prescriptives

X, Y, labels, Mains.

X- It represents the length

Y - It represents Breadth

labels- It represent the subject

Mains- It represents like subject is of which topic.

Here in box plot

Median plays Important role in obtaining the quartile.

If We take Example -

S= (19, 18, 17, 16)

We have to first arrange in ascending Order.

S= (16, 17, 18, 19), 20)

the right element from the middle value is Q_3 third quartile (upper quartile)
= 19

the left element from the middle value is Q_1 first quartile (lower quartile)
= 17

for median

We add Q_1 and Q_3 and divided by 2

$$\frac{Q_1 + Q_3}{3}$$

$$\frac{19+17}{2} = \frac{36}{2} = 18$$

from here we get median = 18

this median plays important role.

Boxplot( )

Boxplot <- (data, x, y, labels, mains).

By putting these values we can obtain the output which desired

Do Not Write anything in this Portion

X

Paper Code

15

X

Do Not Write anything in this Portion

X

Paper Code

Do Not Write anything in this Portion

X

Paper Code

19

Do Not Write anything in this Portion

Paper Code

21

X

Paper Code

Do Not Write anything in this Portion

X

Paper Code

23

Do Not Write anything in this Portion

X