

2023

(FYUGP)

(3rd Semester)

COMMERCE

(Minor)

Paper Code. : Bc/M3

(Business Statistics)

Full Marks: 75 Pass Marks: 40%

Time: 3 hours

(PART : B—DESCRIPTIVE)

(Marks : 50)

The figures in the margin indicate full marks for the questions

1. (a) Explain various scopes and functions of statistics. 10

Or

Explain various types of diagrams in (b) statistics.

2. (a) Calculate the median marks from the following data:

10

Marks	T	No. of students
5–10		7
10–15		15
15–20		24
20–25		31
25–30		42
30–35	i	30
35–40		26
40–45		15
45–50		10

Or

- (b) Explain various types of measures of skewness
- 3. (a) A random sample of 5 college students is selected and their grades in Mathematics and Statistics found to be

Mathematics: 85 60 73 40 90

Statistics: 93 75 65 50 80

Calculate Spearman's rank correlation coefficient.

Or

(b) Explain various types of correlation.

10

4. (a) From the following data, construct the price index number of the group of four commodities by using Fisher's ideal formula:

10

	Base	year	Current year		
Commodities	Price per unit	(₹) Exp.	Price per unit	(₹) Exp.	
A	2	40	5	75	
В	4	16	8 ,	40	
С	1	10	2	24	
D	5	25	10	60	

Or

- (b) Explain various utilities of time series analysis.
- 5. (a) Explain mutually exclusive events, independent and dependent events, simple and compound events, exhaustive events and complementary events.

 2+2+2+2=10

Or

(b) A bag contains five white and three black balls. Two balls are drawn at random one after another without replacement. Find the probability that both balls drawn are black.

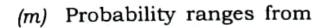
10

2023					
(FYUGP)					
		(3rd Semester)			
		COMMERCE			
		(Minor)			
		Paper Code. : Bc/M3			
		(Business Statistics)			
		(PART : A—OBJECTIVE)			
		(Marks : 25)			
The figi	ıres i	in the margin indicate full marks	for the	questions	
1. Choose the correct answer and place its code in the brackets provided: 1×15=15					
(a) Statistics can					
	(i)	prove anything			
	(ii)	disprove anything			
	(iii)	neither prove nor disprove any a tool	thing, is	s just	
	(iv)	None of the above	[]	
(b)	The	scope of survey depends on			
	(i)	the objectives			
	(ii)	resources			
	(iii)	availability of time	127.1		
	(iv)	All of the above	1	1	

, (c)	Whe	When population under investigation is infinite, we should use			
	(i)	the census method			
	(ii)	the sample method			
	(iii)	either the census method or sam method	ıple		
	(iv)	neither the census method nor sam	nple		
(d)	(d) The coefficient of correlation varies between				
	(i)	0 and 1			
	(ii)	-1 and 1			
	(iii)	-∞ and ∞			
	(iv)	0 and 1 []		
(e)	Two	wo regression lines are identical (or coincide), if			
		r = 1			
	(ii)	r = -1			
	(iii)	r = 0			
	(iv)	$r = \pm 1$]		
Bc/M3/41	.7		1		

(f)		ne regression coefficient is gr y, then other regression coefficier		
	(i)	less than unity		
	(ii)	greater than unity		
	(iii)	equal to unity		
	(iv)	less than zero	[]
(g)		algebraic sum of deviations of the state of	of a s	set of
	(i)	unity		
	(ii)	zero		
	(iii)	standard deviation		
	(iv)	None of the above	[]
(h)		dard deviation cannot be less	than	mean
	(i)	mean		
	(ii)	median		
	(iii)	mode		
	(iv)	geometric mean	ſ	1

(i)	The	graphic method of studying dispe	rsio	n is
	(i)	cartogram		
	(ii)	pictogram		
	(iii)	Lorenz curve		
	(iv)	scatter diagram	[]
<i>(i)</i>	The num	best average in the construction aber is	of	index
	(i)	arithmetic mean		
	(ii)	geometric mean		
	(iii)	median		
	(iv)	mode	[•]
(k)	Paas	sche's index number is based on		
	(i)	base year's quantities		
	(ii)	current year's quantities		
	(iii)	Both (i) and (ii)		
	(iv)	average of base and current year	ar	
			[]
(l)	A tir	me series consists of data arrang	ged	
	(i)	in ascending order		
	(ii)	in descending order		
	(iii)	chronologically		
	(iv)	in alternatively	ſ	1



- (i) -1 to 1
- (ii) 0 to 1
- (iii) -∞ to ∞
- (iv) -3 to 3

(n) If A and B are two mutually exclusive events, then the probability of occurrence either A or B is

- (i) $P(A \cup B) = P(A) + P(B) P(A \cap B)$
- (ii) $P(A \cap B) = P(A) P(B)$
- (iii) $P(A \cap B) = P(A) P(B / A)$
- (iv) $P(A \cup B) = P(A) + P(B)$

(o) In a simultaneous toss of three coins, the probability of all heads is

- (i) $\frac{1}{2}$
- (ii) $\frac{1}{8}$
- (iii) $\frac{3}{8}$
- (iv) $\frac{1}{4}$

2. Write short notes on any five of the following:

 $2 \times 5 = 10$

(a) Importance of Statistics in Economics

(b) Characteristics of Statistics

(c) Skewness

(d) Kurtosis

(e) Coefficient of variation

(11)

(f) Scatter diagram

(f) Scatter diagram

(g) Lorenz curve

(h) Characteristics of index number

(i) Uses of time series

(j) Classical definition of probability