



MS – 429

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**II Semester B.B.M. Examination, May/June 2014  
(Repeaters) (Prior to 2011-12 Scheme)  
BUSINESS MANAGEMENT  
Paper – 2.3 : Business Statistics**

Time : 3 Hours

Max. Marks : 90

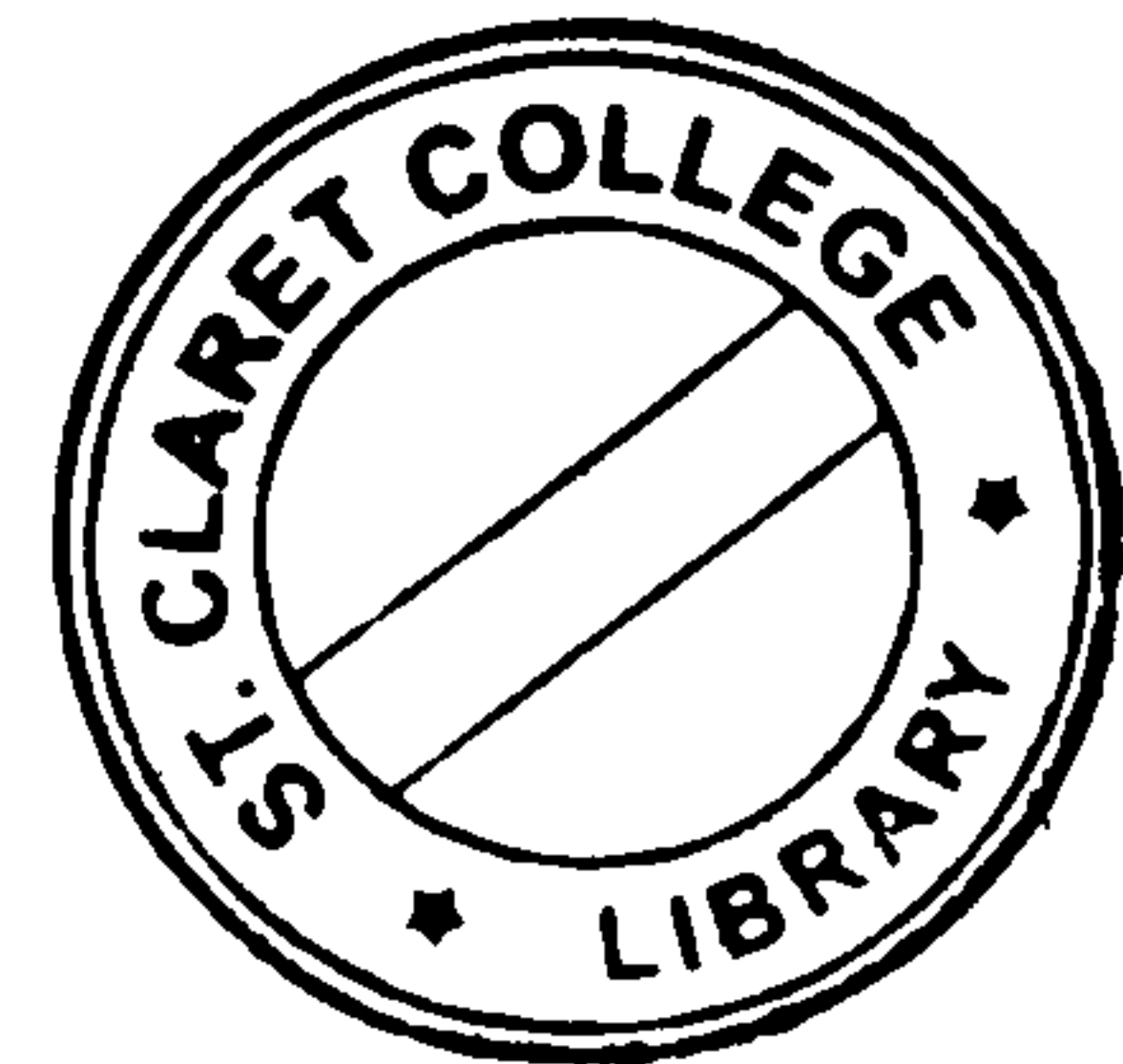
**Instruction :** Answer should be written in **English** only.

**SECTION – A**

1. Answer **any ten** sub-questions. **Each** carries 2 marks.

**(10×2=20)**

- a) Mention any two functions of Statistics.
- b) What are the types of diagrams ?
- c) What do you mean by measure of 'Central Tendency' ?
- d) What is range ?
- e) Distinguish between positive and negative correlation.
- f) If  $b_{xy} = 0.85$ ,  $b_{yx} = 0.89$ , find 'r'.
- g) Define standard deviation.
- h) Define the term 'Regression'.
- i) What do you mean by probable error ?
- j) State the components of time series.
- k) Why is Fisher's formula is called 'ideal' ?
- l) CV of a series is 80%, SD = 16. Calculate Arithmetic mean.



P.T.O.



## SECTION – B

Answer **any five** questions. **Each** question carries **five** marks.

**(5×5=25)**

2. What are the differences between correlator and regression ?

3. Calculate mean deviation for the following series :

Marks	No. of Students
10 – 12	5
12 – 14	8
14 – 16	10
16 – 18	20
18 – 20	7
20 – 22	10

4. Obtain two regression equations from the following :

	'X' series	'Y' Series
Mean	36	85
Variance	121	64

5. From the following data draw a histogram :

<b>Class :</b>	0 – 20	20 – 40	40 – 60	60 – 100	100 – 120	120 – 150
<b>Frequency:</b>	25	40	75	60	30	10

6. Explain the characteristic of a good measure of central tendency.

7. Find the Arithmetic Mean from the following :

Marks	No. of Students
0 – 10	18
10 – 20	17
20 – 30	23
30 – 40	15
40 – 50	7
50 – 60	16
60 – 70	4



8. The following are the group index numbers and group weights of an average family's budget construct consumer price index :

Group	Index No.	Weights
Food	152	48
Fuel and lighting	110	6
Clothing	130	8
House rent	100	12
Miscellaneous	90	15

9. Following information relates to two batsman A & B.

	Batsman 'A'	Batsman 'B'
No. of innings played	10	10
Average runs scored per innings	45.5	52.5
Standard deviation	10	11

Find out :

- a) Who is better run getter ?
  - b) Who is consistent batsman ?
- Use Co-efficient of variation.

SECTION – C

Answer **any three** questions. **Each** question carries **fifteen** marks.

**(3×15=45)**

10. Calculate mode from the following data :

Marks	No. of Students
Below 10	4
Below 20	6
Below 30	24
Below 40	45
Below 50	67
Below 60	86
Below 70	96
Below 80	99
Below 90	100



11. From the following table find correlation co-efficient between age and playing habits of students.

Age in Years	No. of Students	Regular Players
15	250	200
16	200	150
17	150	90
18	120	48
19	100	30
20	80	12

12. Calculate price index number using Fisher's Ideal Method.

Commodity	2010		2011	
	Price	Quantity	Price	Quantity
A	21	15	20	17
B	70	10	75	12
C	60	14	62	15
D	32	10	30	10
E	36	12	38	8

13. Following are the marks obtained by two students 'A' and 'B' in 10 tests for 100 marks each :

Tests:	1	2	3	4	5	6	7	8	9	10
A :	44	80	76	48	52	72	72	51	60	54
B :	48	75	54	60	63	69	72	51	57	66

Find who is better in studies and if consistency is the criterion for awarding a prize, who should get the prize ?

14. Calculate the trend values by applying least squares method.

Year:	1996	2000	2001	2002	2003	2004	2005
Sales:	20	23	22	25	26	29	30

(Rs. Crores)

Estimate the likely sales for 2006 and fit the straight line trend value in graph.