



MS – 492

15
II Semester B.B.M. Examination, May 2016
(Repeaters) (Prior to 2012-13)
BUSINESS MANAGEMENT
Paper – 2.3 : Business Statistics
100 Marks – 2011-12 only
90 Marks – Prior to 2011-12

Time : 3 Hours

Max. Marks : 100/90

- Instructions :** 1) Answers should be written in **English only**.
2) Sections **A, B and C** are to be answered by **all** repeaters
(90 marks).
3) Section **D** is to be answered by students of 2011-12 **only**
(100 marks).

SECTION – A

1. Answer **any ten** of the following sub-questions. **Each** correct answer carries
2 marks. **(10× 2= 20)**
- a) Give the meaning of statistics.
 - b) State two limitations of statistics.
 - c) What is meant by Mode ?
 - d) What are the methods of studying dispersion ?
 - e) Write the meaning of correlation.
 - f) How do you interpret 'r' using Probable Error ?
 - g) Write the line of best fit.
 - h) What do you mean by Base year relating to Index Number ?
 - i) Find Arithmetic mean of 65, 62, 78, 44, 35, 56.
 - j) If $r = 0.9$; $\sigma_x = 10$; $\sigma_y = 1.5$. Calculate b_{xy} and b_{yx} .
 - k) Write the meaning of Histogram .
 - l) What are the uses of Range ?

P.T.O.



SECTION – B

Answer **any five** of the following questions. **Each** correct answer carries **5** marks.

(5×5=25)

2. Calculate Median of the following data.

X	f
60 – 62	25
63 – 65	108
66 – 68	142
69 – 71	127
72 – 74	18

3. Calculate the value of Quartile Deviation and its coefficient from the following data.

Wages 200 220 250 150 175 260 190

4. An organisation has two units A and B. An analysis of weekly wages paid to workers gave the following results.

	Unit A	Unit B
No. of wage Earners	500	670
Average weekly wages (Rs.)	65	72
Standard Deviation (Rs.)	9	9

- Which unit pays larger amount as weekly wages ?
- In which unit there is greater variability in wage payment ?

5. The costs of producing product X is given below.

Raw Material	Rs. 60
Labour charges	Rs. 72
Other overheads	Rs. 48

Present the data in a Pie Diagram.

6. Calculate the coefficient of correlation (r) and comment .

X	5000	10000	15000	20000	25000	30000	35000
Y	1000	2000	3000	4000	5000	6000	7000

7. You are given the following data

Variable	X	Y
Mean	47	96
Variance	64	81

Coefficient of correlation 0.36

Write the regression line X on Y and calculate X when Y = 88.



8. Construct the price Index Number for 2014 on the basis of prices of 2013 using simple Aggregate method.

Commodities	Price in 2013 Rs.	Price in 2014 Rs.
Rice (per kg)	38	46
Wheat (per kg)	28	30
Sugar (per kg)	28	34
Oil (per kg)	90	99
Rent (Per House)	2,500	3,000

SECTION - C

Answer **any three** of the following questions. **Each** correct answer carries 15 marks.

(3x15= 45)

9. Compute Mean, Median and Mode for the following data

1	5
2	20
135	41
145	65
155	68
165	60
175	25
185	9
195	7

10. The goals scored by two teams A and B in football matches were as follows.

Goals	Matches	
	Team A	Team B
0	27	17
1	9	9
2	8	6
3	4	5
4	5	3

Find the team which is more consistent.



11. The following data relate to the Ages of Husbands and Wives.

Age of Husbands : 25 28 30 32 35 36 38 39 42 55
Age of Wives : 20 26 29 30 25 18 26 35 35 46

- Find two regression equations
- Most likely age of husband when wife's age is 25
- Find coefficient of correlation using regression coefficients.

12. Construct Fisher's price index Number and verify whether it satisfies both Factor Reversal Test and Time Reversal Test.

Commodities	2009		2012	
	Price (Rs.)	Quantity	Price (Rs.)	Quantity
A	100	40	110	50
B	16	10	18	8
C	20	2	19	3
D	50	8	53	6
E	5	12	4	18

13. Given below are the figures of production (tons) of Sugar

Year : 2006 2007 2008 2009 2010 2011 2012

Production : 154 176 188 170 182 196 180

- Fit a straight line by 'Least squares' method
- Show the actual and trend line on a graph sheet and
- Estimate the production for the year 2013.

SECTION – D

To be answered by students of 2011-12 only.

(1×10=10)

14. Calculate coefficient of Rank correlation for the following data

X 53 98 95 81 70 81 65 81
Y 25 47 82 76 53 61 75 70