

II Semester B.B.M. Examination, May/June 2014
(Semester Scheme) (2012-13 and Onwards) (F+R)

BUSINESS MANAGEMENT

Paper – 2.4 : Quantitative Methods for Business – II

Time : 3 Hours

Max. Marks : 100

Instruction : Answers should be written **completely in English**.

SECTION – A

Answer **any eight** sub-questions from the Section. **Each** sub-question carries **two** marks. **(8×2=16)**

1. a) Define 'statistics' as data.
- b) What is classification of data ?
- c) What is Histogram ?
- d) If $\bar{X} = 38.2$, Median = 41.6 find mode.
- e) If $\sum fX = 3713$, $\bar{X} = 61.88$ find N.
- f) State any two essentials of a good measure of dispersion.
- g) If CV = 30%, variance = 100 find mean.
- h) What is a base year ?
- i) If $\sum PW = 32,379$, $\sum W = 100$ find CPI.
- j) What is probable error ?

SECTION – B

Answer **any three** questions from this Section. **Each** question carries **eight** marks. **(3×8=24)**

2. Calculate arithmetic mean from the following data.

X	f
100 and above	50
200 and above	46
300 and above	36
400 and above	18
500 and above	6
600 and above	3
700 and above	1

P.T.O.



3. Calculate consumer price Index by using Family Budget Method for the year 2014 with 2013 as base year for the following data :

Items	Weights	Price (₹)	
		2013	2014
Food	35	150	140
Rent	20	75	90
Clothing	10	25	30
Fuel and lighting	15	50	60
Miscellaneous	20	60	80

4. Calculate Mean deviation (from Mean) from the following data :

X	f
0 - 10	10
10 - 20	30
20 - 30	45
30 - 40	40
40 - 50	35
50 - 60	40
60 - 70	20
70 - 80	60

5. In 1998, out of total customers visiting a hotel, 750 were non-vegetarians and 1250 were vegetarians. In total, there were 550 male non-vegetarian customers and 300 female vegetarian customers. In 1999 the total number of customers increased by 25%, while non-vegetarian customers increased by 20%. In all, there were 1700 male customers among whom 650 non-vegetarians in 1999. Tabulate the above data.



SECTION - C

Answer question No. 10 and any three of the remaining. Each question carries 15 marks. (4x15=60)

6. Calculate co-efficient of variation from following data and find out which of the series has more variation.

Age (in Years)	Population (in 000's)	
	City - A	City - B
0 - 10	18	10
10 - 20	16	12
20 - 30	15	24
30 - 40	12	32
40 - 50	10	29
50 - 60	5	11
60 - 70	2	3

7. Calculate Karl Pearson's co-efficient of correlation between heights and weights given below, taking 67 and 68 as assumed Mean respectively.

X 65 66 67 67 68 69 71 73

Y 67 68 64 68 72 70 69 70

8. Determine the two regression equations for the following data and predict Y when X = 70 and X when Y = 80.

X 42 44 58 55 89 98 66

Y 56 49 53 58 65 76 58



9. Draw 'a less than ogive' and 'a more than ogive' from the following data and find median graphically and verify the results.

Age (in Years)	No. of Persons
0 - 10	5
10 - 20	4
20 - 30	8
30 - 40	12
40 - 50	16
50 - 60	25
60 - 70	10

10. Fit a straight line trend to the following data and determine the sales for the year 2014.

Year	:	2005	2006	2007	2008	2009	2010	2011
Sales of Product 'Y' (in lakhs Rs.)	:	200	250	280	350	325	400	430

Also tabulate the trend values.