

Exam. Code : 108501

Subject Code : 2099

B.Com. 1st Semester

BUSINESS STATISTICS

Paper-BCG-106

Time Allowed—3 Hours] [Maximum Marks—50

Note :—Attempt any **five** questions selecting at least **one** question from each Section. Each question carries **10** marks.

SECTION—A

1. Define statistics. Discuss the scope of statistics in business. 10
2. (a) What do you mean by arithmetic mean ? Differentiate between simple and weighted arithmetic mean. When is the usage of median considered more appropriate than mean ?
- (b) Given below is the data of 20 initial public offerings by Indian companies during July 2013. Find out the price mostly offered by the companies during this month :

14.25	19.00	11.00	28.00
24.00	23.00	43.25	19.00
27.00	25.00	15.00	7.00
34.22	15.50	15.00	22.00
19.00	19.00	27.00	21.00

5,5

SECTION—B

3. (a) An analysis of weekly wages paid to workers in two firms A and B gives the following results :

	A	B
No. of Workers	60	80
Average Wages	300	350
Standard Deviation	40	45

- (i) In which firm there is a greater variability of wages ?
- (ii) What are the measures of average wage and standard deviation of the two firms taken together ?
- (b) Calculate mean deviation about the mean for the following data :

x :	10	11	12	13	14	Total
y :	3	12	18	12	3	48

5,5

4. (a) Following data relate to the marks obtained by 10 students of a class where X and Y are the marks in Statistics and Costing :

Statistics	Costing
30	29
38	27
28	22
27	29
28	20
23	29
30	18

Statistics	Costing
33	21
28	27
35	22

- (b) Calculate Spearman's Rank coefficient of correlation. Data on vehicles passing through seven different highways during a day and the number of accidents reported are given below. Compute the coefficient of correlation.

No. of vehicles (in 000s) (X)	9	11	14	15	16	19	21
No. of accidents reported (Y)	30	40	60	70	85	95	110

5,5

SECTION—C

5. It is said that 'Index numbers are specialized type of averages'. How far do you agree with this statement? Briefly explain the Time Reversal Test and Factor Reversal Test. Discuss the various problems faced in the construction of Index Numbers. 10
6. Find Laspeyre's, Paasche's, Fisher's and Marshall Edgeworth index number for the following data and also check factor reversal test :

Commodity	2015		2016	
	Price (Rs.)	Quantity (Kg.)	Price (Rs.)	Quantity (Kg.)
A	20	8	40	9
B	50	10	60	10
C	40	15	60	12
D	10	15	151	15

10

SECTION—D

7. Calculate seasonal indices for each quarter from the following percentages of wholesale price indices to their moving averages :

Year	Quarter			
	I	II	III	IV
2001	—	—	11.0	11
2002	12.5	13.5	15.5	14.5
2003	16.8	15.2	13.1	15.3
2004	11.2	11.0	12.4	13.2
2005	10.5	13.3	—	—

10

8. (a) The chances that a person hits a target is three out of four while the chances of another person hitting the same target is two out of three. Find the probability of the target being hit when they both try.
- (b) A bag contains 9 white and 6 red balls. Three balls are drawn one after another such that :
- (i) the balls are replaced before next drawing, and (ii) the balls are not replaced before the next drawing. Find the probability of drawing all the three red balls in each case. 5,5