

BUSINESS STATISTICS : 2014

(Old and New Course - 108)

Time : 3 Hours]

[Maximum Marks : 90

[Minimum Pass Marks : 32

Note : Attempt all questions. Each question contains three parts (a), (b) and (c) out of which attempt any two. All Questions carry equal marks.

UNIT - 1

- 1.(a) Define Statistics. What are its main functions ? Discuss briefly the limitations of statistics ?
- (b) What is tabulation ? What are its uses ? Mention the items that a good statistical table should contain.
- (c) Draw a frequency polygon for the following distribution :
- | | | | | | | |
|----------------|---------|---------|---------|---------|---------|---------|
| Class Interval | 15 - 25 | 25 - 35 | 35 - 45 | 45 - 55 | 55 - 65 | 65 - 75 |
| Frequency | 10 | 16 | 18 | 15 | 13 | 4 |

UNIT - 2

- 2.(a) What do you mean by central tendency ? What are the common measures of central tendency ?
- (b) Given below is the distribution of weights of a group of 60 students in a class :

Weights	No. of Students
30 - 34	3
35 - 39	5
40 - 44	12
45 - 49	18
50 - 54	14
55 - 59	6
60 - 64	2

Find the mode of the distribution.

- (c) Find the geometric mean from the following data :

Diameter	130	135	140	145	143	148	149	150
No. of Screws	3	4	6	6	3	5	2	2

UNIT - 3

- 3.(a) What do you mean by deviation ? How is it different from standard deviation ?
- (b) Karl Pearson's coefficient of skewness of a distribution is 0.5. The median and mode of the distribution are, respectively 42 and 32. Find : (i) The mean
(ii) The standard deviation (iii) The coefficient of variation
- (c) Calculate the standard deviation for the following data :

X	20	30	40	50	60	70
Frequency	8	12	20	10	6	4

UNIT - 4

- 4.(a) Define correlation. Explain various types of correlation with suitable examples.
- (b) Calculate Spearman's coefficient of rank correlation from the following data :

X	57	16	24	65	16	16	9	40	33	48
Y	19	6	9	20	4	15	6	24	13	13

- (c) Find out the coefficient of correlation between the age of husbands and age of wives from the following data :

Age of Wives	Age of Husbands					Total
	20-30	30-40	40-50	50-60	60-70	
15-25	4	9	4	—	—	17
25-35	—	8	24	5	—	37
35-45	—	2	11	2	—	15
45-55	—	—	6	14	5	25
55-65	—	—	—	4	2	6
Total	4	19	45	25	?	

- 5.(a) Write is meant by time series ? State the different components of time series.
- (b) Calculate the index number from the following data by :

Commodities	Base Year		Current Year	
	Price	Quantity	Expenditure	Quantity

A	6	50	560	56
B	2	100	240	120
C	4	60	360	60
D	10	30	288	24
E	8	40	432	36

(c) From the following data, calculate the trend values using 4 yearly moving averages.

Year	1989	1990	1991	1992	1993	1994	1995	1996	1997
Values	506	620	1036	673	588	696	1116	738	663

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