

BUSINESS STATISTICS : 2013

(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) Explain the meaning and scope of Statistics bringing out its Importance in the field of trade.
- (b) What is meant by classification ? What precautions are to be taken in selecting class intervals ?
- (c) Represent the following data by a pie diagram :

| Item | Expenditure in (Rs.) |
|---------------|----------------------|
| Food | 87 |
| Clothing | 24 |
| Recreation | 11 |
| Education | 13 |
| Rent | 25 |
| miscellaneous | 20 |

UNIT - 2

- 2.(a) "The purpose of an average is to represent a group of individual values in simple and concise manner so that a quick understanding of the general size of individual in the group can be made easily." Explain.
- (b) Find the missing frequency from the following data :

| Class Interval | Frequency |
|----------------|-----------|
| 0 - 10 | 3 |
| 10 - 20 | 5 |
| 20 - 30 | — |
| 30 - 40 | 3 |
| 40 - 50 | 2 |

The mean of the distribution is 23.

- (c) Calculate the median from the following data :

| Value | Frequency |
|--------------|-----------|
| Less than 10 | 4 |
| Less than 20 | 16 |
| Less than 30 | 40 |
| Less than 40 | 76 |
| Less than 50 | 96 |
| Less than 60 | 112 |
| Less than 70 | 120 |
| Less than 80 | 125 |

UNIT - 3

- 3.(a) Explain the meaning of coefficient of variation. Mention how it is different from variance.
- (b) Calculate the standard deviation of the following data :
160, 160, 161, 162, 163, 163, 163, 164, 164, 170
- (c) Calculate the coefficient of shewness by any method of the given data : <http://prsuonline.com>

| Wages | No. of persons |
|---------|----------------|
| 0 - 10 | 1 |
| 10 - 20 | 3 |
| 20 - 30 | 11 |
| 30 - 40 | 21 |
| 40 - 50 | 43 |
| 50 - 60 | 32 |
| 60 - 70 | 9 |

UNIT - 4

- 4.(a) Define Karl Pearson's coefficient of corralation. What is it intended to measure ? How would you interpret the sign of correlation coefficient ?
- (b) Explain the importance of correlation in statistical analysis in management decision situations with exmples.
- (c) Find the correlation coefficient of the given data :

| | | | | | |
|---|---|---|---|---|----|
| X | 1 | 2 | 3 | 4 | 5 |
| Y | 3 | 3 | 7 | 9 | 12 |

- 5.(a) Write short notes on the following : (i) Base Year's Index
(ii) Relative Year's Index (iii) Weighted Index
(b) Using the data calculate price index for the year 1949 by Fisher's formula :

| Commodity | Price (Rs.) | | Quantity ('000 kg) | |
|-----------|-------------|------|--------------------|------|
| | 1949 | 1958 | 1949 | 1958 |
| Rice | 9.3 | 4.5 | 100 | 90 |
| Wheat | 6.4 | 3.7 | 11 | 10 |
| Pulse | 5.1 | 2.7 | 05 | 03 |

- (c) Fit a trend by the method of semi averages to the data given below. Estimate the sales for the year 1984 :

| Year | Sales (Rs. 00,000) |
|------|--------------------|
| 1975 | 18 |
| 1976 | 24 |
| 1977 | 26 |
| 1978 | 28 |
| 1979 | 33 |
| 1980 | 36 |
| 1981 | 40 |
| 1982 | 44 |
| 1983 | 48 |

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