

DIPLOMA EXAMINATION IN ENGINEERING/TECHNOLOGY/
MANAGEMENT/COMMERCIAL PRACTICE - OCTOBER, 2018

STATISTICS

[Time : 3 hours

(Maximum marks : 100)

PART - A

(Maximum marks : 10)

Marks

I Answer all questions in one or two sentences. Each question carries 2 marks.

1. Define Statistics.
2. What do you mean by the term Arithmetic Mean?
3. State the meaning of Correlation.
4. List out different types of Index numbers.
5. Calculate the Arithmetic Mean from the following data :

10, 90, 85, 103, 11, 29, 84, 15, 35, 80

(5 × 2 = 10)

PART - B

(Maximum marks : 30)

II Answer any five of the following questions. Each question carries 6 marks.

1. Distinguish between primary data and secondary data.
2. The mean of a series of 5 items is 30, Four values are respectively 10, 15, 30, 35. Estimate the missing value.
3. Explain the requisite of a good Classification.
4. For the data given below calculate Simple Index Number.

Commodities	Price (1995)	Price (2000)
A	5	7
B	8	9
C	12	15
D	25	24
E	3	4

Handwritten calculations for question 5 and 2:

For question 5: $\frac{10+90+85+103+11+29+84+15+35+80}{10} = 56$

For question 2: $\frac{10+15+30+35+x}{5} = 30$
 $90+x = 30 \times 5$
 $90+x = 150$
 $x = 150 - 90$
 $x = 60$

5. Following table gives the birth rate per thousands of different countries over a period.

Country	Birth Rate
India	33
Germany	16
U.K.	20
China	40
Newziland	30
Sweden	12

Represent the above data by a simple bar diagram.

6. State various methods of construction of index numbers.

7. Calculate Co-efficient of correlation.

X	2	3	4	5	6	7	8
Y	4	5	6	12	9	5	4

$$r = \frac{\sum xy}{\sqrt{\sum x^2 \times \sum y^2}} (5 \times 6 = 30)$$

PART — C

(Maximum marks : 60)

(Answer one full question from each unit. Each full question carries 15 marks.)

UNIT — I

III Explain the methods of collection data. 15

OR

IV (a) State the functions of Statistics. 8

(b) List out the limitations of Statistics. 7

UNIT — II

V Calculate mean, median from the following data and also obtain the mode. 15

Marks	Frequency
10 - 25	6
25 - 40	20
40 - 55	45
55 - 70	26
70 - 85	3
85 - 100	1

OR

$$\frac{100}{100} = 40$$

- VI (a) Mean marks obtained by 100 students was founded to be 40. Later on it was noted that one value was read as 83 instead of 53. Find out the correct mean. Marks 39.7 7
- (b) The mean wage of 100 labourers working in a factory running 2 shifts of 60 and 40 respectively is ₹ 38. The mean wage of 60 labourers working in the morning shift is ₹ 40. Find mean wage of labourers working in the evening shifts. 8

UNIT — III

- VII (a) State the meaning and importance of Correlation. 8
- (b) Explain the types of correlation. 7

OR

- VIII Find out the Rank Correlation co-efficient between poverty and over crowding from the table.

Town	A	B	C	D	E	F	G	H	I	J
Poverty	17	13	15	16	6	11	14	9	7	12
Over crowding	36	46	35	24	12	18	27	22	2	8

15

UNIT — IV

- IX Calculate weighted index number by Laspeyer's and Fisher's index number method.

Commodity	Base year Price	Current Year Price	Base Year Quantity	Current year Quantity
A	4	7	10	8
B	5	9	8	6
C	6	8	15	12
D	2	2	5	6

15

OR

- X (a) State the uses of Index Numbers. 7
- (b) Construct the Cost of Living Index Number from the following :

Group	A	B	C	D	E
Index	350	200	240	150	250
Weight	5	2	3	1	2

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