

III Semester B.B.A. Examination, January/February 2025
(NEP) (F+R)

BUSINESS ADMINISTRATION
Paper - 3.3 : Business Statistics

Time : 2½ Hours

Max. Marks : 60

Instruction : Answer should be written in English only.

SECTION - A

1. Answer any 6 sub-questions. Each sub-question carries 2 marks. (6×2=12)
 - a) State the objectives of statistics.
 - b) Give the meaning of quantitative classification.
 - c) What do you mean by frequency polygon ?
 - d) What is positional average ?
 - e) State the methods of construction of index number.
 - f) What is probable error ?
 - g) $\bar{X} = 20.2$, $Me = 22.1$, $Z = ?$
 - h) The arithmetic mean runs scored by the 2 batsmen x and y in a cricket series of 10 innings are 50 and 48 respectively. The standard deviations of their runs are 15 and 12 respectively. Who is the most consistent player ?

SECTION - B

Answer any three of the following questions. Each question carries 4 marks. (3×4=12)

2. In a trip organised by a college, there were 80 persons each of whom paid Rs. 21 on an average. There were 60 students, each of whom paid Rs. 22. Member of the teaching staff were charged at higher rate. The number of servants were 6 (all males) and they were not charged anything. The number of females was 20 percent of the total of which one was a lady staff member. Tabulate the information.

P.T.O.

3. Obtain the two regression equation from the following data when the deviation are obtained from mean.

$$N = 20$$

$$\bar{x} = 4, \bar{y} = 2$$

$$Ex^2 = 1680$$

$$Ey^2 = 320$$

$$Exy = 480.$$

4. Calculate arithmetic mean.

Income ('000)

Number of Families

More than 0

100

More than 10

95

More than 20

82

More than 30

60

More than 40

45

More than 50

36

More than 60

20

More than 70

10

5. Two judges gave the following ranks to a series of music contestants. Examine the relationship between their judgement.

Judge 'A' = 8, 7, 6, 3, 2, 1, 5, 4.

Judge 'B' = 7, 5, 4, 1, 3, 2, 6, 8.

6. Construct a cost of living index.

Item	Index	Weights
Food	323.79	50
Clothing	310.00	10
Lighting	220.00	08
Rent	150.00	12
Misc.	300.00	20



SECTION - C

Answer **any 3** questions. **Each** question carries **12** marks.

(3×12=36)

7. The annual profit in lakh of rupees of 200 companies are as follows.

Profit	= 0 - 50, 50 - 100, 100 - 150, 150 - 200, 200 - 250, 250 - 300					
No. of Company	= 24	36	54	40	34	12

Draw both the ogives and locate median.

8. Calculate mode.

x	= 0 - 5,	5 - 10,	10 - 15,	15 - 20,	20 - 25,	25 - 30,	30 - 35
f	= 1	3	10	6	10	9	1

9. The following are the results of final BBA examinations in a college.

Age of Candidates	= 19 - 20, 20 - 21, 21 - 22, 22 - 23, 23 - 24, 24 - 25					
Candidates Appeared	= 120	100	70	40	10	5
Successful Candidates	= 72	55	35	18	4	1

Calculate co-efficient of correlation between age and success.

10. The following results of capital employed and profit earned by a firm in 10 successive year are calculated.

	Rs. in '000	
	Mean	Standard deviation
Capital employed (x)	55	28.7
Profit earned (y)	13	8.5
Correlation co-efficient		0.96

- Obtain two regression equations.
- Estimate the amount of profit to be earned if capital employed is Rs. 60,000.
- Estimate the amount of capital to be employed if profit earned is Rs. 30,000.



11. Compute Fisher's ideal index and test whether it satisfies the Reversibility tests.

	Base year		Current year	
	Value Rs.	Price Rs.	Value Rs.	Price Rs.
A	50	5	72	6
B	84	6	80	8
C	80	8	96	8
D	20	10	30	10
E	56	7	64	8
