

B.Sc. (I.T.) - II (CBCS Pattern) Sem-III
UBITT306 - Statistical and Numerical Methods Paper-VI

P. Pages : 2

Time : Three Hours



GUG/W/22/10932

Max. Marks : 40

- Notes :
1. All questions are compulsory and carry equal marks.
 2. Draw neat and labelled diagrams wherever necessary.
 3. Avoid vague answers and write answers relevant and specific to questions only.

Either:

1. a) Define Primary and Secondary Data. Explain the methods to collect Primary Data. 4
- b) Calculate Mean, Median and Mode for the following: 4

Sr. No.:	1	2	3	4	5	6	7	8	9
Marks:	25	15	23	40	27	25	23	25	20

OR

- c) Calculate Quartiles, 7th Deciles, 46th Percentiles, 3rd Quintiles and 5th Octiles. 4

Size of shoes :	4.5	5	5.5	6	6.5	7	7.5	8	8.5	9	9.5	10	10.5	11
Frequency :	1	2	4	5	15	30	60	95	82	75	44	25	15	4

- d) Define Statistics. Discuss function and Importance of Statistics. 4

Either:

2. a) What is mean by Dispersion? What are the methods of computing Dispersion? 4
- b) Calculate Range and its Coefficient. 4

Income in Rs. (Below) :	20	30	40	50	60
No. of Persons :	15	33	63	83	100

OR

- c) What is Skewness? What are the various methods of measuring Skewness? 4
- d) Find out the Coefficient of Skewness if Coefficient of Variation i.e. C.V. = 40%, Mean $(\bar{X}) = 25$ and Mode $(Z) = 20$. 4

Either:

3. a) Distinguish between Regression and Correlation? 4
- b) Fit the regression equation of x on y and y on x from the following data. 4

x = 10	20	30	40	50	60
y = 15	5	10	25	30	40

Obtain the estimate of y when x = 22.

OR

- c) Explain Index Number and its characteristics. 4
- d) Explain Laspeyre's Method and Paasche's Method of Index Number in detail? 4

Either:

4. a) Find a Truncation error of following function for $X = 1/3$ when we use 4
- i) First 2 terms
 - ii) First 3 terms
 - iii) First 4 terms
 - iv) First 5 terms
- From the following sequence.
- $$e^x = 1 + x + \frac{x^2}{2!} + \frac{x^3}{3!} + \frac{x^4}{4!} + \frac{x^5}{5!} + \frac{x^6}{6!} + \frac{x^7}{7!}$$
- b) Write a note on Chopping and Round off error. 4
- OR**
- c) Find the absolute and relative error in evaluating the function. 4
- $$f(x, y) = \sqrt{x^2 + y^2}$$
- d) Write a short note on Blunders. 4
5. Attempt all the questions.
- a) Distinguish between primary data and secondary data? 2
 - b) Calculate Mean – Deviation from Mean and its Coefficient. 2
- Mark : 20 22 27 30 31 32 35 40 45 48
- c) Define Index Number? What are the characteristics of Index Number? 2
 - d) Write a short note on Error Estimation? 2
