23. You are given the distribution of wages in two factories X and Y. State in which factory the wages are more variable.

Wages (in Rs.)	Number of workers	
	Factory X	Factory Y
500 – 1000	2	6
1000 – 1500	9	11
1500 – 2000	29	18
2000 – 2500	54	32
2500 – 3000	11	27
3000 – 3500	5	11

24. Fit a parabolic curve of second degree to the data given below and estimate the value for 1990 and comment on it.

Year	1984	1985	1986	1987	1988
Sales (in million Rs.)	10	12	13	10	8

25. Fit a straight line trend by the method of least squares to the following data. Assuming that the same rate of change continues, what would be the predicted earnings for the year 1988 ?

Year	Earnings (Rs. Lakhs)
1979	38
1980	40
1981	65
1982	72
1983	69
1984	60
1985	87
1986	95

K17U 2558

Reg. No. : .....

Name : .....

I Semester B.Sc. Degree (CBCSS – Reg./Supple./Improv.) Examination, November 2017
CORE COURSE IN STATISTICS
1B01 STA : Descriptive Statistics
(2014 Admn. Onwards)

Time : 3 Hours Max. Marks : 48

Instruction : ***Use*** *of calculator and statistical tables are* ***permitted.***

PART – A

Short answer. Answer **all** the **6** questions. **(6×1=6)**

1. Define statistics as statistical data.
2. Define law of statistical regularity.
3. What is mean by a parameter ?
4. What are the difference between nominal data and ordinal data ?
5. Define central moments.
6. Write short note on quartile deviation.

PART – B

Short essay. Answer **any 7** questions. **(7×2=14)**

7. What are the limitations of statistics ?
8. What are the difference between primary data and secondary data ?
9. Explain the importance of classification and tabulation.
10. Calculate arithmetic mean for the following data.

Number of students appeared	Percentage passed
85	90
55	100
150	80
100	85
120	75

11. What are the different measures of central tendency ?

12. Calculate weighted arithmetic mean for the following data.

X	Weights (W)
1500	10
800	20
500	70
250	100
100	150

13. In a certain distribution, the following results were obtained
Coefficient of variation = 40%
Arithmetic mean = 25 and
Mode = 20
Find out the coefficient of skewness.

14. Define rank correlation.

15. Write short notes on :
a) Quartiles b) Mean deviation

PART – C

Essay. Answer **any 4** questions. **(4×4=16)**

16. Give the importance and scope of statistics.

17. For the data presented in the following distribution. Draw
1) Histogram 2) Frequency polygon

Class interval	Frequency
10 – 19	6
20 – 29	18
30 – 39	20
40 – 49	14
50 – 59	12
60 – 69	6
70 – 79	4

18. Find first 3 raw and central moments for the following data :
8, 11, 14, 20, 27, 13.

19. From the data given below, calculate mean deviation from mean.

Marks	Number of students
0 – 10	4
10 – 20	6
20 – 30	12
30 – 40	20
40 – 50	10
50 – 60	6
60 – 70	3

20. Explain the principle of 'Least Squares'.

21. Calculate coefficient of correlation from the following data. What is your conclusion ?

X	Y
39	47
65	53
62	58
90	86
82	62
75	68
25	60
98	91
36	51
78	84

PART – D

Long Essay. Answer **any 2** questions. **(2×6=12)**

22. Compute arithmetic mean, median and mode from the following data. Verify the relation between them.

Marks obtained	Number of candidates
Less than 10%	7
Less than 20%	39
Less than 30%	95
Less than 40%	201
Less than 50%	381
Less than 60%	545
Less than 70%	631
Less than 80%	675