



**SECTION – B****(5 X 5 = 25 MARKS)****ANSWER EITHER (a) OR (b) IN EACH OF THE FOLLOWING QUESTIONS.**11. a) Assess the functions of statistics. **(K3)****(OR)**11.b) Sketch the limitations of statistics. **(K3)**12.a) Examine the classifications of statistical data. **(K3)****(OR)**12.b) Explain the meaning of tabulation. **(K3)**13.a) Calculate the arithmetic mean by step deviation method. **(K3)**

Marks: 20    30    40    50    60    70    80    90    90

**(OR)**13.b) Calculate the mode. **(K3)**

Marks	0-19	20-39	40-59	60-79	80-99
No. of students	5	20	35	20	12

14.a) Compute the co-efficient of correlation between X-Advertisement Expenditure and Y-Sales. **(K3)****(K3)**

X	10	12	18	8	13	20	22	15	5	17
Y	88	90	94	86	87	92	96	94	88	85

**(OR)**14.b) From the data given below, calculate the rank correlation coefficient. **(K3)**

X	21	36	42	37	25
Y	47	40	37	42	43

15.a) Draw the trend line by graphic method and estimate the production in 2023. **(K3)**

Year	2015	2016	2017	2018	2019	2020	2021
Production	20	22	25	26	25	27	30

**(OR)**15.b) Examine the components of time series. **K3)****SECTION – C****(5 X 8 = 40 MARKS)****ANSWER EITHER (a) OR (b) IN EACH OF THE FOLLOWING QUESTIONS.**16.a) Classify the methods of collecting data. **(K4)****(OR)**16.b) Examine the scope of statistics. **(K5)****(CONT...3)**

17.a) Discuss the differences between classification and tabulation. **(K5)**

**(OR)**

17.b) Experiment the diagrammatic and graphical representation of data. **(K4)**

18.a) Calculate the median height. **(K5)**

Height (cms)	145-150	150-155	155-160	160-165	165-170	170-175
No. of students	2	5	10	8	4	1

**(OR)**

18.b) Calculate the mean deviation from the mean for the following data: **(K4)**

Marks	0-10	10-20	20-30	30-40	40-50	50-60	60-70
No. of workers	6	5	8	15	7	6	3

19.a) Find Karl Pearson's coefficient of correlation from the marks secured by 10 students in accountancy and statistics. **(K5)**

Marks in Accountancy (X)	45	70	65	30	90	40	50	75	85	60
Marks in Statistics (Y)	35	90	70	40	95	40	60	80	80	50

Also calculate its probable error and the limits within which the population correlation coefficient may be expected to lie. Point out whether the value of r is significant or not.

**(OR)**

19.b) For the data given below, compute regression equation of Y on X **(K4)**

X	146	152	158	164	170	176	182
Y	75	78	77	79	82	85	86

20.a) Using three year moving averages. Determine the trend and short-term fluctuations. **(K5)**

Year	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Production	21	22	23	25	24	22	25	26	27	26

**(OR)**

20.b) Analyze the methods of seasonal fluctuations. **(K4)**