

**BE(Chemical)-MBA, Semester-3<sup>rd</sup>**  
**Business Statistics, 2<sup>nd</sup> Periodical**

**Time : 1 hour**

**Max Marks: 25**

**Note : All questions are compulsory**

1. A mathematics placement test is given to all entering freshmen at a small college. A student who receives a grade below 35 is denied admission to the regular mathematics course and placed in a remedial class. The placement test scores and the final grades for 20 students who took the regular course were recorded. (a) Plot a scatter diagram. (b) Find the equation of the regression line to predict course grades from placement test scores. (c) Graph the line on the scatter diagram. (d) If 60 is the minimum passing grade, below which placement test score should students in the future be denied admission to this course?

Placement test	50	35	35	40	55	65	35	60	90	35	90	80	60	60	60	40	55	50	65	50
Course Grade	53	41	61	56	68	36	11	70	79	59	54	91	48	71	71	47	53	68	57	79

[10]

2. The following table gives indices of industrial production and number of registered unemployed people (in lakh). Calculate the value of the correlation coefficient.

Year	: 1991	1992	1993	1994	1995	1996	1997	1998
Index of Production	: 100	102	104	107	105	112	103	99
Number Unemployed	: 15	12	13	11	12	12	19	26

[5]

3. The following data represents the number of units of production per day turned out by 5 different workers using four different type of machines:

Workers	Machine Type			
	A	B	C	D
1	44	38	47	36
2	46	40	52	43
3	34	36	44	32
4	43	38	46	33
5	38	42	49	39

[10]