

60	250	
82	300	
85	340	
79	315	
84	330	
80	310	
62	240	15

Unit IV

7. What do you mean by multivariate techniques ?
Explain their significance in the context of research studies. **15**

8. Set up an analysis of variance table for the following two-way design results :
Per Acre Production Data of Wheat (in metric tones)

Varieties of Fertilizers	Varieties of seeds		
W	A	B	C
X	6	5	5
X	7	5	4
Y	3	3	3
Z	8	7	4

Also state whether variety differences are significance at 5% level. **15**

M-BB89 **4** **70**

No. of Printed Pages : 04

Roll No.

BB89

M.Tech. EXAMINATION, May 2019

(Second Semester)

(B. Scheme) (Main & Re-appear)

(ME)

MEI506B

STATISTICS FOR DECISION MAKING

Time : 3 Hours]

[Maximum Marks : 75

Before answering the question-paper candidates should ensure that they have been supplied to correct and complete question-paper. No complaint, in this regard, will be entertained after the examination.

Note : Attempt *Five* questions in all, selecting at least *one* question from each Section. All questions carry equal marks. Use Statistical Tables (e.g. Area under Normal Curve, *t*-distribution, F-distribution, Chi-square, Correlations etc, are permitted).

(3-30/6) **M-BB89**

P.T.O.

Unit I

1. What does a measure of central tendency indicate ? Describe the important measures of central tendency pointing out the situation when one measure is considered relatively appropriate in comparison to other measures. **15**
2. The weights of bags of potatoes delivered to a supermarket are approximately Normally distributed with mean 5 kg and standard deviation 0.2 kg. The potatoes are delivered in batches of 500 bags. (i) Calculate the probability that a randomly selected bag will weigh more than 5.5 kg. (ii) Calculate the probability that a randomly selected bag will weigh between 4.6 and 5.5 kg. **15**

Unit II

3. Under what circumstances are the Fisher-Irwin test used ? Explain. What are the main limitations of this test ? **15**

4. Suppose we are interested in a population of 20 industrial units of the same size, all of which are experiencing excessive labour turnover problems. The past records show that the mean of the distribution of annual turnover is 320 employees, with a standard deviation of 75 employees. A sample of 5 of these industrial units is taken at random which gives a mean of annual turnover as 300 employees. Is the sample mean consistent with the population mean ? Test at 5% level. **15**

Unit III

5. What do you mean by Time Series ? What are its basic components/elements ? Explain. **15**
6. From the following data of hours worked in a factory (x) and output units (y), determine the regression line of y on x .

Hours (x)	Production (y)
80	300
79	302
83	315
84	330
78	300