Advanced Statistical Techniques for Analytics

(S2-21_SSZG 536)

Each question carries 2.5 marks (2.5 × 4=10 Marks)

1) **Submissions are individual**
2) **Solve these on paper, scan and upload**
3) **Plagiarism results in zero marks**
4) **Write your name, BITS ID on each page**

Q1. Feedback scores of three professors in four different courses taught by them are given below. Test the hypothesis that the feedback of professors is same for all the courses at 1% level of significance.

Professor	Course A	Course B	Course C	Course D
X	4.5	4.2	3.3	3.6
Y	3.8	4.1	2.7	4
Z	4	3.4	3.4	3

Q.2. Consider the following data.

PROCESS	SAMPLE SIZE	MEAN LIFE	STANDARD DEVIATION
A	20	20,400	100
B	25	21,800	100

Test the hypothesis that average life of the two processes are significantly different at 5% level of significance.

Q.3.Calculate the Correlation coefficient between the sample of ISM Quiz-1 marks and Assignment-1 Marks as below and also interpret the result.

Student	1	2	3	4	5	6	7	8	9	10
Quiz Marks	5	4.5	3	5	4.5	4.5	4.5	5	5	4.5
Assignment Marks	8.5	9	5.5	9.5	9	9.5	10	9.5	9	9
Student	11	12	13	14	15	16	17	18	19	20
Quiz Marks	4.5	4.5	5	3.5	4.5	5	5	4.5	5	4.5
Assignment Marks	10	10	8.5	9	7.5	9.5	9.5	9.5	9	9.5

Q.4.A manager of a Merchandising firm wishes to test whether its three salesmen X, Y and Z tend to make sales of the same size or whether they differ in their selling abilities. During a

week there have been 14 sale call; X made 5 calls, Y made 4 calls and Z made 5 calls. Following are the weekly sales record of three salesmen:

X	5	4	7	8	6
Y	3	7	4	6	-
Z	5	3	5	4	3

Perform the analysis of variance and draw your conclusion.

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