Please check that this question paper contains 9 questions and 2 printed pages within first ten minutes.

[Total No. of Questions: 09]   [Total No. of Pages: ......]
Uni. Roll No. ....

Program: B.Tech.
Semester: 4th
Name of Subject: Probability and Statistics   30-06-21(E)
Subject Code:BSIT-101
Paper ID: 16232

Time Allowed: 02 Hours   **Max. Marks: 60**

NOTE:

1) Each question is of 10 marks.
2) Attempt any six questions out of nine
3) Any missing data may be assumed appropriately

1.a) Calculate median for the following frequency distribution

Class interval	0-10	10-20	20-30	30-40	40-50
Frequency	2	12	22	8	6

b)Calculate mode for the following frequency distribution

Class interval	0-20	20-40	40-60	60-80	80-100
Frequency	5	10	12	6	3

2. Given are no. of football goals scored in 5 years by two players A and B. Which player is most consistent?

Player A	18	20	22	24	26
Player B	11	14	15	17	18

3. 962 people were surveyed for their preference in car or bike. Following are the results obtained:

	Car	Bike	Total
Men	207	282	438
Women	231	242	524
Total	438	524	962

Can we say these preferences are independent of gender? Check at 5% level of significance.

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P.T.O.

4. A random sample of 12 persons is taken from a population having IQ 100. We want to test that eating fish makes one smarter. 12 persons are given fish oil supplement for one year and then their IQs are recorded. Here are the IQ results: 116 111 101 120 99 94 106 115 107 101 110

4. A random sample of 12 persons is taken from a population having IQ 100. We want to test that eating fish makes one smarter. 12 persons are given fish oil supplement for one year and then their IQs are recorded. Here are the IQ results: 116 111 101 120 99 94 106 115 107 101 110 92. Can we say there is improvement in the IQ?

5. Calculate Rank correlation coefficient for the following marks in two subjects and explain your result.

Mathematics	56	75	45	71	62	64	58	80	76	61
PAS	66	70	40	60	65	56	59	77	67	63

6. What will be the demand for price 20?

Demand	40	38	43	45	37	43
Price	10	12	13	12	16	15

7. a) What is the difference between frequency and probability distribution? Explain in detail.

b) Four unbiased coins are tossed. What is the probability of getting at most two heads?

8. There are 3 cards with the following observations

a) The color of both the sides of the 1st card is orange,

b) The color of both the sides of the 2nd card is blue, and

c) The color of one side of the 3rd card is orange and the other side is blue.

Cards are mixed up in a bag, and 1 card is randomly selected. If the upper side of the selected card is orange, what is the probability that the other side is blue?

9. Fit a straight line for the following data

x	10	20	30	40	50
y	22	23	27	28	30

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