

JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY, WAKNAGHAT

TEST -1 EXAMINATION- 2024

B.Tech-VIII Semester (BI)

COURSE CODE(CREDITS): 18B1WCI843 (3)

MAX. MARKS: 15

COURSE NAME: Data Analytics

COURSE INSTRUCTOR: Maneet Singh

MAX. TIME: 1 Hour

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*Note: (a) All questions are compulsory.*

*(b) Marks are indicated against each question in square brackets.*

*(c) The candidate is allowed to make Suitable numeric assumptions wherever required for solving problems*

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Q1. Justify the following statement: [3] [CO1]

*"According to normal distribution, the probability of occurrence of any given number is zero".*

Q2. Differentiate between descriptive and inferential statistics with the help of examples. [3] [CO1-2]

Q3. Briefly describe the procedure for testing the given hypothesis. [3] [CO2]

Q4. Examine the following scenarios and propose the appropriate parametric statistical test, providing a valid rationale for your choice.

*(a) A Researcher wanted to study whether significant differences exist in the organizational citizenship behavior of junior and senior managers in a Multinational Company (MNC). For this purpose the researcher selected a sample of 100 each (that is, 100 junior managers and 100 senior managers) from an MNC. The selected sample was then administered the Organizational Citizenship Scale and data was obtained.*

*(b) A clinical psychologist wanted to study the effectiveness of a new psychotherapy (Therapy A) on patients diagnosed with depression. The clinical psychologist therefore administered the Becks' Depression Inventory on a group (N= 50) of patients diagnosed with depression, which was followed by six months intervention based on Therapy A and then after six months the same patients were again administered Becks' Depression Inventory to study the effect of the Therapy A. In this research the Pretest- Posttest design was used.*

*(c) A researcher carried out a study on emotional maturity of early, middle and late adolescents. The researcher collected data from the three groups (200 from each group) with the help of Emotional Maturity Scale.* [3] [CO2]

Q5. Explain the following terms: [3] [CO1-2]

(a) Skewness                      (b) Kurtosis                      (c) Left-tailed t test