JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY, WAKNAGHAT

TEST -1 EXAMINATION- FEB-2023

COURSE CODE(CREDITS): 18B1WCI843 (3) MAX. MARKS: 15

COURSE NAME: Data Analytics

COURSE INSTRUCTORS: Dr. Rakesh Kanji MAX. TIME: 1 Hour

Note: *All questions are compulsory. Marks are indicated against each question in square brackets.*

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1. If a Random variable (R_x) is defined over a chemical experiments which is performed to check the particular precipitation probability which depends on chemical temperature and chemical concentration. [CO2] [2]

2. What is the difference b/n hyper geometric distribution and binomial distribution? [CO1] [1]

3. A certain disease affects 1 out of 10000 people. There is test to check whether the person has the disease. Please consider below data for finding the accuracy for the test. [CO3] [3]

P(Test_postive| man_not_having_disease)=0.002,

P(Test_negative| man_ having_disease)=0.001

4. Proof P(A|B) not equal to P(B|A)? [CO1] [2]

5. I have 3 bags that each contain 100 marbles, bag 1 has 75 red and 25 blue, bag2 has 60 Red and 40 Blue and bag3 has 45 red and 55 blue marbles. Find out probability of getting red while choosing a bag random? [CO3] [2]

6. Suppose you want to test a die is fair or not over 600 trial and level of significance or P(type I error) is 0.05. Please find out the range of random variable given the test. [CO3] [5]

Please note that, $\varphi^{-1}(0.975)=1.96$