NMIMS GLOBAL ACCESS SCHOOL FOR CONTINUING EDUCATION

NMIMS Global Access

School for Continuing Education (NGA-SCE)

Course: Decision Science

Internal Assignment Applicable for June 2022 Examination

Assignment Marks: 30

Instructions:

- *All Questions carry equal marks.*
- *All Questions are compulsory*
- *All answers to be explained in not more than 1000 words for question 1 and 2 and for question 3 in not more than 500 words for each subsection. Use relevant examples, illustrations as far as possible.*
- *All answers to be written individually. Discussion and group work is not advisable.*
- *Students are free to refer to any books/reference material/website/internet for attempting their assignments, but are not allowed to copy the matter as it is from the source of reference.*
- *Students should write the assignment in their own words. Copying of assignments from other students is not allowed.*
- *Students should follow the following parameter for answering the assignment questions.*

For Theoretical Answer	
Assessment Parameter	**Weightage**
Introduction	20%
Concepts and Application related to the question	*60%*
Conclusion	*20%*

For Numerical Answer	
Assessment Parameter	**Weightage**
Understanding and usage of the formula	20%
Procedure / Steps	*60%*
Correct Answer & Interpretation	*20%*

1. Three airlines serve a Srinagar. Airline ‘Amira’ has 50% of all the scheduled flights, airline ‘Biyas’ has 30%, and airline ‘chinar’ has the remaining 20%. Their on-time rates are 80%, 65%, and 40%, respectively.

NMIMS GLOBAL ACCESS SCHOOL FOR CONTINUING EDUCATION

NMIMS Global Access

School for Continuing Education (NGA-SCE)

Course: Decision Science

Internal Assignment Applicable for June 2022 Examination

Part 1) Draw the Probability tree diagram. (Note: You may use any software for this, like MS paint, MS office, etc.)

Part 2) A plane has just left on time. What is the probability that it was airline 'Amira'?

(10 Marks)

2. Rashmi Dhar, manufacturer, and seller of 'Kashmiri- kahwa' through E-commers websites.

She wanted to know the effect of her spending in advertisement of 'Kahwa' on the sales, along with the other factors; 'number of sales representatives', 'customer-satisfaction ratings'. For this research she has gathered the sales data in the following table, along with other necessary information.

Part 1) Define dependent and independent variables

Part 2) Write regression model equation only.

Part 3) Run regression analysis in EXCEL (copy all those tables from EXCEL and paste them in your document).

Part 4) Write the Interpretation of Regression statistics-table, ANOVA- table.

Write an interpretation (by referring P-value/ t-stat) on significant effect of independent variables on sales.

Region/ Districts	**Sales of Kahwa (in INR)**	**Spending in advertise (in INR)**	**number of sales representatives (person)**	**customer-satisfaction ratings (1=highly dissatisfied to 5 = highly satisfied**
Kupwara	55328	5512	1	1
Badgam	56251	8337	1	1
Leh-ladakh	57126	8788	4	1
Kargil	58739	8828	5	1

NMIMS GLOBAL ACCESS SCHOOL FOR CONTINUING EDUCATION

NMIMS Global Access

School for Continuing Education (NGA-SCE)

Course: Decision Science

Internal Assignment Applicable for June 2022 Examination

Region/ Districts	Sales of Kahwa (in INR)	Spending in advertise (in INR)	number of sales representatives (person)	customer-satisfaction ratings (1=highly dissatisfied to 5 = highly satisfied
Punch	66984	9050	5	2
Rajouri	70676	10150	7	2
Kathua	73206	11236	8	2
Baramula	80571	12538	8	3
Bandipore	93168	13161	8	3
Srinagar	99432	13448	9	4

(10 Marks)

3.a. According to one survey in India, 75% of Instagram users love REELS. Suppose that 25 Instagram users (randomly selected) have been approached in the university located in vile parle. They have been asked about their status of like/ dislike the Instagram- REELS.

a) What is the probability that Exactly 15 of them would agree with the claim (or said they love Insta-REELS)?

b) What is the probability that Exactly 20 of them would agree with the claim (or said they love Insta-REELS)?

(5 Marks)

3.b. 'Bhartdarshan' is an Internet-based travel agency wherein customers can see videos of the cities they plan to visit. The number of hits daily is a normally distributed random variable with a mean of 10,000 and a standard deviation of 2,400.

a. What is the probability of getting more than 12,000 hits?

b. What is the probability of getting fewer than 9,000 hits?

(5 Marks)

****