



NMIMS Global Access
School for Continuing Education (NGA-SCE)

Course: Decision Science

Internal Assignment Applicable for December 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%

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1. Your favorite team Garuda is in the final season of Indian Premier League. Raj Kaul, an expert has assigned a probability of 60% that Garuda will win based on his study of the current scenario. Past records indicate that when teams win the championship, they win the first game of the series 70% of the time. When they lose the series, they win the first game 25% of the time.



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The first game is over; your team has lost. What is the probability that it will win the series?

Note:

- Probability Tree Diagram is required in this question. You are advised to draw the diagram in Word, PowerPoint etc.
- Do not draw the diagram manually, handwritten/ snapshots are not allowed.

(10 Marks)

2. Run Regression Analysis based on the given Data.

1. Calculate the Line of regression Y on X (Don't use Excel, calculate manually)
2. What is b_1 telling you about the relationship?

Shivani Raje is making Kakhra and selling online via e-commerce websites. Recently she is looking for some insights for improvising the quality of her product. She thought of survey, she asked her recent customers about the quality of the product and their satisfaction level towards the same. Her scale is 1 to 5. Higher the score higher the satisfaction/ quality and lower score value indicates lower level of satisfaction and poor quality.

Customer Satisfaction score (Y)	Quality Ratings given by Customer (X)
5	5
5	5
5	4
5	4
5	5
5	5
5	3
5	5
4	4
4	4
4	4
4	4
4	3
4	3



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4	4
4	2
3	3
3	3
3	3
3	2
2	2
2	2
1	1
1	1
1	1
1	3
1	1

Note: You are advised to calculate manually, do not use software.

(10 Marks)

3. a. Calculate the Relative Frequency based on the following Data and using 'Relative frequency' discuss the data by choosing appropriate graph.

Data: District wise Micro, Small and Medium Enterprises

State Name	District Name	Total MSMEs
TRIPURA	WEST TRIPURA	2915
TRIPURA	SOUTH TRIPURA	586
TRIPURA	DHALAI	439
TRIPURA	NORTH TRIPURA	854
TRIPURA	KHOWAI	514
TRIPURA	UNAKOTI	447
TRIPURA	SEPAHIJALA	383
TRIPURA	GOMATI	513

Data Source: Data.gov.in

Note:

- You may use EXCEL, Tableau, Power BI Etc. for creating Graph.
- You are allowed to copy graph only, make sure you follow the general instructions for writing assignment.

(5 Marks)



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3. b.

1. Analyze the following data and show the top 2 districts using Bar chart.
2. Calculate the median and provide the list of districts above median value.

State Name	District Name	Number of Micro, Small and Medium Enterprises
ANDHRA PRADESH	SRIKAKULAM	10895
ANDHRA PRADESH	VIZIANAGARAM	30186
ANDHRA PRADESH	VISAKHAPATNAM	29070
ANDHRA PRADESH	EAST GODAVARI	26546
ANDHRA PRADESH	WEST GODAVARI	33541
ANDHRA PRADESH	KRISHNA	23231
ANDHRA PRADESH	GUNTUR	25479
ANDHRA PRADESH	PRAKASAM	45171
ANDHRA PRADESH	SPSR NELLORE	54059
ANDHRA PRADESH	Y.S.R	37500
ANDHRA PRADESH	KURNOOL	15362
ANDHRA PRADESH	ANANTHAPUR	21193
ANDHRA PRADESH	CHITTOOR	27670

Data Source: Data.gov.in

Note: You are advised to calculate manually, do not use software.

(5 Marks)
