



NMIMS GLOBAL ACCESS
SCHOOL FOR
CONTINUING EDUCATION

NMIMS Global Access

School for Continuing Education (NGA-SCE)

Course: Decision Science

Internal Assignment Applicable for December 2023 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%

Q1. Draw the decision tree diagram and explain the best possible decision based on EMVs (expected Monetary Values)

On the 1st April 2023, Rajinder Sapru, an investor is in a dilemma for the investment of 10 lakh INR. He has consulted his Mumbai based friend, MukulBhai Gadhecha, an investment expert for this matter. Mr Sapru went to meet him at his office located at Prabhadevi. Mukulbhai asked him to express his feeling for the market situation in coming economic year.

NMIMS Global Access

School for Continuing Education (NGA-SCE)

Course: Decision Science

Internal Assignment Applicable for December 2023 Examination

Mr Saproo assumed the economic growth for the coming year in the following way.

10 % optimist for the 'Good Economic Growth'

50 % optimist for the 'Moderate Economic Growth'

40 % optimist for the 'Lower Economic Growth'.

In addition to this, MuKulbhai Gadhecha carried out his analysis to derive possible payoff values considering the various investment options as per the economic situations (presented in the table given below). Figures are in INR on the investment of whole amount of 10 lakhs.

Options	Good Economic Growth	Moderate Economic Growth	Lower Economic Growth'
Mauti Suzuki Shares	3,00,000	1,20,000	50,000
TATA Motor Shares	4,00,000	1,00,000	10,000
D Mart shares	4,50,000	2,30,000	30,000

If you were in place of Mukulbhai Gadhecha, What do you recommend to Mr. Saproo?

Note: You are not allowed to use any software for the calculation. But for the preparation of Decision tree diagram you are advised to use Software like MS -Word, PowerPoint etc.

(10 Marks)

Q2. Draw the appropriate chart using MS EXCEL, also carryout Exponential Smoothing model in MS EXCEL for the given Alpha values, copy the results (from EXCEL to Word) and explain which alpha is relatively better for the forecast. In this journey of identification of relatively better way of forecasting you may take the support of MAD and MSE type of errors. Suggested Alpha values are 0.1, 0.2, 0.5, 0.7, 0.9.

(10 Marks)

NMIMS Global Access

School for Continuing Education (NGA-SCE)

Course: Decision Science

Internal Assignment Applicable for December 2023 Examination

	Yield of Groundnut (Kg./hectare)
2000-01	977
2001-02	1127
2002-03	694
2003-04	1357
2004-05	1020
2005-06	1187
2006-07	866
2007-08	1459
2008-09	1163
2009-10	991
2010-11	1411
2011-12	1323
2012-13	995
2013-14	1764
2014-15	1552
2015-16	1465
2016-17	1398
2017-18	1893
2018-19	1422
2019-20	2063
2020-21	1703
2021-22	1758

Data Source: RBI

Q3. A) You are not advised to use Software in this case, show the calculation-steps typed in your MS-word file.

In Roshni lights (manufacturer of Mirchi lights) A production run of 2000 set of Mirchi lights being tested for the life, the data shows that life is normally distributed with an average life span of 90 days and a standard deviation of 10 days. What is the probability if a set of Mirchi lights randomly selected from that lot, survived up to 100 days? **(5 Marks)**

NMIMS Global Access

School for Continuing Education (NGA-SCE)

Course: Decision Science

Internal Assignment Applicable for December 2023 Examination

Q3 B) Draw an appropriate chart to show the contribution of each category (in percent form) of Micro, small and medium Enterprises (MSMEs) at the state level. (You may use the MS EXCEL). In conclusion also write, why you have chosen this graph for this problem?

(5 Marks)

StateName	DistrictName	Total MSMEs	Micro	Small	Medium
UTTARAKHAND	ALMORA	1235	1068	150	17
UTTARAKHAND	BAGESHWAR	838	807	29	2
UTTARAKHAND	CHAMOLI	739	688	49	2
UTTARAKHAND	CHAMPAWAT	802	745	55	2
UTTARAKHAND	DEHRADUN	12605	10600	1909	96
UTTARAKHAND	HARIDWAR	8883	6416	2263	204
UTTARAKHAND	NAINITAL	3752	3003	675	74
UTTARAKHAND	PAURI GARHWAL	4955	4678	264	13
UTTARAKHAND	PITHORAGARH	1061	962	95	4
UTTARAKHAND	RUDRA PRAYAG	740	698	37	5
UTTARAKHAND	TEHRI GARHWAL	1399	1227	162	10
UTTARAKHAND	UDHAM SINGH NAGAR	9746	7767	1839	140
UTTARAKHAND	UTTARKASHI	1114	1002	111	1

Data source: OGD
