

ASM's  
**Institute of Professional Studies**  
Pimpri, Pune – 411 018

**Teacher's Course Plan**

Name of Subject Teacher: Dr. Lalit Kanore

No. of Lectures Allotted per Week: 4(1 Hr Lecture)

**Basic Course Information**

Programme: MBA II (A)

Semester: III

Title of the Course: Decision Science

Course Code: 302

A: **Course Outcomes:** On successful completion of the course the learner will be able to:

CO#	COGNITIVE ABILITIES	COURSE OUTCOMES
CO-302.1	REMEMBERING	DESCRIBE the concepts and models associated with Decision Science.
CO-302.2	UNDERSTANDING	UNDERSTAND the different decision-making tools required to achieve optimization in business processes.
CO-302.3	APPLYING	APPLY appropriate decision-making approach and tools to be used in business environment.
CO-302.4	ANALYSING	ANALYSE real life situation with constraints and examine the problems using different decision-making tools.
CO-302.5	EVALUATING	EVALUATE the various facets of a business problem and develop problem solving ability
CO-302.6	CREATING	DISCUSS & propose the various applications of decision tools in the present business scenario.

**B: Outline of topics to be covered**

Lecture No.	Unit	Topics to be covered	Teaching Pedagogy	Planned Date	Actual Date	Coordinator's sign
1	I	Importance of Decision Sciences & role of quantitative techniques in decision making	Interactive Teaching	16/11/22	16/11/22	}
2	II	Linear Programming: Concept, Formulation of problem as LPP.	Interactive Teaching	17/11/22	17/11/22	
3		Graphical Solution of LPP	Interactive Teaching	18/11/22	18/11/22	
4		Graphical Solution of LPP	Tutorial	19/11/22	19/11/22	
5	I	Transportation Models: Concept, formulation, Problem types: balanced, unbalanced, restriction and maximization	Interactive Teaching	23/11/22	23/11/22	} H3
6		Basic initial solution using NWCM, LCM/MMM & VAM,	Interactive Teaching	24/11/22	24/11/22	
7		More Examples on NWC, LCM & VAM	Tutorial	26/11/22	26/11/22	} H2
8		More Examples on NWC, LCM & VAM	Tutorial	30/11/22	30/11/22	
9		Optimal Solution Using MODI Method	Interactive Teaching	01/12/22	11/12/22	} H1
10		Examples on MODI Method	Tutorial	02/12/22	21/12/22	
11		Alternative Solution and special cases in TP	Interactive Teaching	03/12/22	3/12/22	
		Miscellaneous examples on Transportation Problem	Tutorial	07/12/22	7/12/22	
12		Assignment Problem, Hungarian Method	Interactive Teaching	08/12/22	8/12/22	
13		Special Cases in Assignment Problem	Interactive Teaching	09/12/22	9/12/22	
14	II	Markov Chains: Applications related to management functional areas, estimation of transition probabilities.	Interactive Teaching	10/12/22	10/12/22	
15		Examples based on Markov chains	Tutorial	14/12/22	14/12/22	
16		Simulation Techniques: Monte Carlo Simulation, scope, and limitations.	Interactive Teaching	15/12/22	15/12/22	
17		Markov Chain examples and monte Carlo simulation examples	Tutorial	16/12/22	16/12/22	
18	III	Probability: Concept, & Different definitions of probability	Interactive Teaching	21/12/22	17/12/22	} H1
19		Examples on Probability	Interactive Teaching	22/12/22	21/12/22	
20		Conditional Probability	Interactive Teaching	23/12/22	24/12/22	
21		Baye's Theorem & Examples based on bayes theorem	Interactive Teaching	24/12/22	23/12/22	
22		Probability Distribution: Binomial Distribution with examples	Interactive Teaching	28/12/22	24/12/22	

23		Poisson Distribution with examples	Interactive Teaching	29/12/22	28/12/22	
24		Normal Distribution and examples	Interactive Teaching	30/12/22	24/12/22	
25		Examples based on Binomial, Poisson & Normal distribution	Tutorial	31/12/22	25/12/22	
26		Queuing theory: Single server and multi-server model	Interactive Teaching	04/01/23	23/12/22	Ho
27		Numerical based on Single server model	Interactive Teaching	05/01/23	8/1/23	
28		Numerical based on Single server model	Tutorial	06/01/23	8/1/23	
29	IV	CPM & PERT: Concept, Drawing network	Interactive Teaching	07/01/23	3/1/23	
30		Network calculations- calculating EST, LST, EFT, LFT,	Interactive Teaching	08/01/23	3/1/23	
31		Slack, floats & Examples	Tutorial	08/01/23	4/1/23	
32		Critical Path and prob. of project completion in case of PERT	Interactive Teaching	08/01/23	5/1/23	
33		Examples	Tutorial	11/01/23	6/1/23	Ho
34	V	Decision Theory: Concept, Decision making under uncertainty Maximax, Maximin, Minimax regret	Interactive Teaching	12/01/23	11/1/23	
35		Hurwitz's & Laplace criterion, Decision making under risk (EMV, EVPI) for items with and without salvage value.	Interactive Teaching	13/01/23	12/1/23	
36		Theory: Concept, $2 \times 2$ zero sum game, Pure & Mixed Strategy, solution of games with dominance, average dominance method.	Interactive Teaching	14/01/23	13/1/23	
37		Examples	Interactive Teaching	15/01/23	14/1/23	
38		Sequencing problem: Introduction, Problems involving n jobs-2 machines, n jobs- 3 machines & n jobs-m machines, Comparison of priority sequencing rules.	Interactive Teaching	15/01/23	15/1/23	
39		Examples based on n job 2 machines	Tutorial	15/01/23	15/1/23	Ho
40		Examples based on n job 3 machines	Interactive Teaching	18/01/23	18/1/23	Ho
41		Revision	Tutorial	19/01/23	25/1/23	
42		Student Presentation		21/01/23	25/1/23	
43		Student Presentation		25/01/23	28/1/23	
44		Student Presentation		27/01/23	30/1/23	Ho
45		Student Presentation		28/01/23	31/1/23	

**Note:** RB: Reference Book; WL: Web Link; CS: Case Study

**C: Concurrent Evaluation Plan.**

Sr. No.	Concurrent Evaluation Component	Date	Time	Course Outcome (linkages of CCE with the Course Outcomes and the targeted attainment levels for each CO)					
				CO-104.1	CO-104.2	CO-104.3	CO-104.4	CO-104.5	CO-104.6
1	Assignment 1	08/12/22 to 14/12/22	--	0	0	10	15	0	0
2	Online Exam	15/01/2023	06:00 pm -- 07:00 pm	10	15	0	0	0	0
3	Presentation	21/01/23 to 28/01/23		0	0	0	0	10	15

**D: Method of Internal Evaluation: 75 Marks are mapped to 50 Marks.**

Types of CCE	Max. Marks
Assignment 1	25
Online Exam	25
Presentation	25

  
**Subject Teacher**

  
**Course Coordinator**

  
**Director**