Session Plan

ST. JOSEPH'S COLLEGE OF COMMERCE, BANGALORE.

PG DEPARTMENT

Course Name: M Com (IB)

Semester: 2nd

Subject: Operations Research for Business Decisions

Faculty: Shivakami Rajan.

Module Number	Session No	Topic	Pre- class activity	Pedagogy (in class)	Out of class assignment
1	1	Introduction to Operation Research – Definition and evaluation of OR –	**nil**	**lectures**	**Nil**
	2	Characteristics and Scope of OR – Management Applications of OR.	**nil**	**lectures**	**nil**
2	3	Linear Programming – Formulation of LP Problems – Graphical Solutions	**NA**		**Nil**
	4	Contd	**Completions of Practice Problems**	**exercise**	**Problems**
	5	Simplex Algorithms –	**nil**	**lectures**	**Problems**
	6	Duality in Linear Programming.	**nil**	**exercise**	**Problems**
	7	Computer package for solving LP – Applications of LP Problems – Need for integer and Non Linear Programming.	**Completions of Practice Problems**	**Lecture &exercise**	**Nil**
			nil	**Lecture &exercise**	**Nil**

3	**8**	Transportation and Assignment Problems – Formulation and solution of transportation problem,.	**Completions of Practice Problems**	**Lecture &exercise**	**Nil**
	9	Balanced & Unbalanced Transportation Problem.	**nil**	**exercise**	**Problems**
	10	Contd	**nil**	**exercise**	**Problems**
	11	Formulation and solution of Assignment, Application of these Techniques in Management	**Completions of Practice Problems**	**Lecture &exercise**	**Nil**
	12	Assignment problem.	**nil**	**exercise**	**Problems**
	13	Contd	**nil**	**exercise**	**Problems**
4	**14**	Queuing theory and Simulations – Queuing Models and Elements,	**Completions of Practice Problems**	**Lecture &exercise**	**Nil**
	15	Contd	**nil**	**exercise**	
	16	Contd	**nil**	**exercise**	
	17	Single and Multiple Server Queries,	**Completions of Practice Problems**	**Lecture &exercise**	**Nil**
	18	Contd	**nil**	**exercise**	
	19	Simulation and its applications,	**Completions of Practice Problems**	**Lecture &exercise**	**Nil**
	20	Contd	**nil**	**exercise**	
	21	Commercial Simulations Packages.	**Completions of Practice Problems**	**Lecture &exercise**	**Nil**
5	**22**	Game theory – Game theory concepts –	**nil**	**Lecture &exercise**	**Nil**
	23	Conflicting decision situation, the game in normal form, the optimal strategy, the matrix games.	**nil**	**exercise**	
	24	Contd	**nil**	**exercise**	

	25	Contd	Completions of Practice Problems	Lecture &exercise	Nil
	26	Application of Game theory	nil	exercise	
	27	Solving matrix games types of "Saddle point", "2×2" "2×n" and "m×2".	nil	exercise	
	28	Network Analysis –	Completions of Practice Problems	Lecture &exercise	Nil
	29	Definition of Projects—	nil	Lecture &exercise	Nil
	30	Contd	nil	exercise	
	31	Drawing of Diagram	nil	exercise	
	32	Basic concepts of graph theory, directed graphs, networks, projects, critical path method.	nil	exercise	
	33	,– LS/LF – ES/EF Concepts	nil	exercise	
	34	Contd	nil	exercise	
	35	Contd	nil	exercise	
	36	Crashing of Activities – Cost Implications.	Completions of Practice Problems	Lecture &exercise	Nil
	37	Contd	nil	exercise	
	38	Contd	nil	exercise	
	39	CPM	nil		
	40	Contd	nil	exercise	
	41	Contd	nil	exercise	
	42	PERT –	Completions of Practice Problems	Lecture &exercise	Nil

	43	Method PERT (Program Evaluation Review Technique).	nil	exercise	
	44	Contd	**Completions of Practice Problems**	exercise	
	45	Markovian Decision Process and Application in Business.	nil	Lecture &exercise	Nil

Book for references

1. Anderson Sweeney Williams: An Introduction to Management Science Quantitative Approaches to Decision, Thomson.

2. Chacko, George K: Applied Operations Research/Systems Analysis in Hierarchical Decision Making, North Holland Publishing Co.

3. Taha, Hamdy A: Operations Research, Prentice Hall, India.

4. Hiller/Lieberman: Introduction to Operations Research, Tata McGraw Hill.

5. Sharma S D: Operations Research, Kedarnath Ramnath & Co.

Signature: Shivakami Rajan