

OPTIMIZATION MODELS FOR
BUSINESS DECISIONS

Paper-M24-MBA-201

Time Allowed : 3 Hours [Maximum Marks : 70]

Note : Attempt **five** questions in all. Question No. 1 is compulsory. Attempt **four** other questions selecting **one** question from each unit carrying **14** marks.

Compulsory Question

1. Explain briefly the following : $4 \times 3\frac{1}{2} = 14$

- (a) Feature of operations research.
- (b) What is the concept of "jockeying" in a queuing system?
- (c) What is a Markov process ?
- (d) Mixed strategies in game theory.

UNIT-I

- 2. Explain the Graphical Method of solving a Linear Programming Problem. Under what conditions is the Graphical Method applicable? Illustrate with the help of a diagram (no need to solve numerically).

	B: Strategy X	B: Strategy Y	B: Strategy Z
A: Strategy X	3	-1	2
A: Strategy Y	4	0	-2
A: Strategy Z	1	2	1

You are required to do following tasks:

- (a) Represent the game using the above payoff matrix.
- (b) Find the saddle point, if it exists. What does it represent?
- (c) Determine if any pure strategy solution is possible.
- (d) If there is no saddle point, suggest the best mixed strategy approach for Store A.

- 9. What is decision making under risk? Explain how Expected Monetary Value (EMV) helps in choosing the best alternative when probabilities of outcomes are known.

3. A Company produces two types of garments, G1 and G2, using cutting and sewing departments. The profit per garment and resource usage are as follows :

14

Profit:

G1: ₹60 per unit

G2: ₹50 per unit

Time Required:

G1: 5 hours in cutting and 2 hours in sewing

G2: 3 hours in cutting and 4 hours in sewing

Department Capacity:

Cutting department: 150 hours

Sewing department: 100 hours

You are required to do (a) formulate the linear programming model and (b) use the simplex method to determine the optimal production mix.

UNIT-II

4. A logistics network includes four warehouses (W1-W4) and four retail stores (R1-R4). The shipping costs (₹ per unit), supply, and demand are as follows:

14

	R1	R2	R3	R4	Supply
W1	8	6	10	9	60
W2	9	12	13	7	90
W3	14	9	16	5	50
W4	6	8	12	11	80
Demand	70	60	80	70	

You are required to do following task tasks:

- (a) Find an initial feasible solution using the Vogel's Approximation Method (VAM).

- (b) Check the solution for optimality using the MODI method. If not optimal, find the optimal solution and calculate the total transportation cost.

5. A workshop has 4 machines and 4 jobs to be performed. Each machine can perform only one job, and the time (in hours) taken by each machine to perform each job is given below :

14

	Job A	Job B	Job C	Job D
M1	8	26	17	11
M2	13	28	4	26
M3	38	19	18	15
M4	19	26	24	10

You are instructed to do following tasks:

- Use the Hungarian Method to find the optimal assignment of jobs to machines so that the total time is minimized.
- State the minimum Total Time required.

UNIT-III

- A construction company is tasked with building a residential building. The project manager has outlined the following activities, their durations, and dependencies : 14

Activity	Duration (Days)	Immediate Predecessors
A	5	-
B	3	A
C	2	A
D	4	B
E	3	C
F	6	D, E

In this project, Activity A (foundation work) starts first. Once A is completed, B (bricklaying) and C (Plumbing) can begin. Later, D (roofing) depends on B, while E (wiring) depends on C. Finally, F (finishing) can start once both D and E are completed.

You are required to do following tasks :

- Draw the Project Network diagram showing the dependencies between the activities.
- Identify the critical path.
- Calculate the total project duration based on the critical path.

- What is a Probabilistic inventory model, and how does it differ from a deterministic model? Explain the concept of safety stock and service level in the context of uncertain demand. Why are these concepts important in Real-world inventory Management? 14

UNIT-IV

- Two competing retail chains, Store A and Store B, are planning discount strategies for an upcoming festive season. Each can choose one of three strategies: 14

- Strategy X: Flat 20% off
- Strategy Y: Buy 1 Get 1 Free
- Strategy Z: Loyalty Cashback

The payoff matrix below (in ₹ crores) represents the gain for Store A and loss for Store B (since it is a zero-sum game):

MMS/M-25

27696

OPTIMIZATION MODELS FOR BUSINESS DECISIONS

Paper-M24-MBA-201

Time Allowed : 3 Hours]

[Maximum Marks : 70

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P. T. O.

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Roll No.

Total Pages : 3

MMS/M-25

27697

BUSINESS RESEARCH METHODOLOGY

Paper-M24-MBA-202

Time Allowed : 3 Hours]

[Maximum Marks : 70

Note : Attempt **five** questions in all, selecting **one** question from each Unit. Question No. 1 is compulsory. All questions carry equal marks.

Compulsory Question

1. Write short notes on the following : $4 \times 3\frac{1}{2} = 14$
 - (a) What are the key characteristics of Exploratory research design?
 - (b) What is the role of sampling in business research?
 - (c) Explain the concept of external validity in experimental research.
 - (d) Define the Data tabulation. What are its advantages in business research?

UNIT-I

2. How would you distinguish between a management decision problem and a management research problem? Explain the steps involved in problem identification process. 14

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P. T. O.

3. What is a Research hypothesis? Explain the characteristics of a Good hypothesis and describe in detail the steps involved in hypothesis testing in business research. 14

UNIT-II

4. Discuss the various types of Experimental research designs, such as pre-experimental, true experimental, and quasi-Experimental designs. How are these designs selected based on the Nature of the business problem being studied? 14

5. Discuss the different types of Data used in business research. Compare primary and secondary data by highlighting their advantages, limitations, and applicability in different research scenarios. 14

UNIT-III

6. Explain the meaning of Measurement and scaling in research. Describe any two types of Measurement scales commonly used in business research, and comment on the reliability and validity of these scales. 14

7. What is sampling design? Explain the criteria used to determine an appropriate sample size for a business research study. 14

UNIT-IV

8. Explain the importance of Report writing in the Final phase of business research. What are the Essential components of a well-structured research report, and how should the results be presented for maximum impact? 14

9. Write a detailed note on the concept of Conjoint analysis and its application in understanding Consumer preferences. How is this tool helpful in managerial decision-making? 14

Room-2

Roll No.

Total Pages : 3

MMS/M-25

27698

MARKETING MANAGEMENT

Paper-M24-MBA-203

Time Allowed : 3 Hours]

[Maximum Marks : 70

Note : Attempt **five** questions in all, selecting **one** question from each Unit. Question No. **1** is compulsory. All questions carry equal marks.

Compulsory Question

1. Write short notes on the following : 14

- (a) IT influx in marketing.
- (b) Actual examples of Niche Marketing with characteristics of Niches.
- (c) Premium v/s Freemium Pricing.
- (d) Selective v/s Intensive distribution.

UNIT-I

2. Evolution and growth of marketing can be traced in various concepts of marketing. Discuss the statement clearly pointing merits and pitfalls of various concepts of marketing. 14

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P. T. O.

3. Suppose a global driver-less car marketer is eyeing Indian market with its complete range of fleet. How the political, economic and international environment in India would impact it? 14

UNIT-II

4. What bases of segmentation can be used to segment the market for cosmetic and beauty products? 14
5. Why should marketers keep a watch on various stages of consumer buying process? Discuss the said stages briefly with marketers response in the same. 14

UNIT-III

6. The concept of Product Life Cycle is an indication for marketers to mould their marketing mix strategies with the life cycle stage of the product. Elaborate the statement clearly mentioning the applicable strategies in each of the stage. 14
7. Discuss various pricing policies that marketers adopt for assigning monetary value to their product. Also give an actual authentic example for each policy. 14

UNIT-IV

8. An advertising campaign revolves around Mission, Money, Message, Media and Measurement. Discuss the statement briefly explaining these 5 Ms. 14

9. From the use of AI and Augmented Reality to Sustainability, the field of marketing is witnessing glaring changes in recent times. Discuss the statement briefly discussing emerging trends in marketing. 14

9. Ravi runs a Small Electronics Store. During the festive season, he stocks a large quantity of LED TVs expecting high demand. However, sales are slower than expected, and a lot of his money is stuck in unsold inventory. Because of this, Ravi is unable to pay his suppliers on time. Now question is that how did Ravi's inventory decision affect his working capital? What could he have done differently to manage his inventory better? 14

Total Pages : 4

Roll No.

27699

MMS/M-25

CORPORATE FINANCE

Paper-M24-MBA-204

Time Allowed : 3 Hours] [Maximum Marks : 70

Note : Attempt five questions in all, selecting **one** question from each Unit. Question No. 1 is compulsory.

Compulsory Question

1. Explain briefly the following : $4 \times 3\frac{1}{2} = 14$

- What is Corporate Finance ?
- What is meant by Time Value of Money ?
- What are Stock dividends ?
- What are the sources of Working Capital ?

UNIT-I

2. Company XYZ is considering three Investment projects. The expected cash flows for each project are as follows: 14

Year	Project A (₹)	Project B (₹)	Project C (₹)
0	-1,00,000	-1,50,000	-1,20,000

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P. T. O.

Year	Project A (₹)	Project B (₹)	Project C (₹)
1	40,000	60,000	50,000
2	50,000	70,000	60,000
3	60,000	80,000	70,000
4	70,000	90,000	80,000

The Company's cost of capital is 10%. You are required to do following tasks:

- Calculate the NPV of each project.
 - Which project should the Company choose based on the NPV method? Justify your answer.
3. A firm is considering two investment opportunities, Project X and Project Y. The initial investments and the expected future cash inflows are as follows: 14

Year	Project X (₹)	Project Y (₹)
0	- 5,00,000	- 4,00,000
1	1,50,000	2,00,000
2	2,00,000	2,50,000
3	2,50,000	3,00,000
4	3,00,000	3,50,000

The Company's required rate of return is 12%. You are need to do (a) Calculate the Profitability Index (PI) for both projects and (b) Suggest based on the PI, which project should the firm choose ?

UNIT-II

- What is the cost of capital? How does a Company's Capital structure affect its overall Cost of Capital? Explain briefly. 14
- Discuss the Trade-Off Theory of capital structure. How does this theory explain the balance between the benefits of tax shields and the costs of financial distress? 14

UNIT-III

- What is Dividend Policy? Explain briefly the main types of dividend policies that a Company can follow. 14
- What is Financial modelling? Explain its importance in business decision-making and financial planning. 14

UNIT-IV

- What are the main objectives of cash management? How does effective Cash Management contribute to the overall Financial Health of a Business? 14

Roll No. Total Pages : 2

MMS/M-25 **27700**

HUMAN RESOURCE MANAGEMENT

Paper-M24-MBA-205

Time Allowed : 3 Hours [Maximum Marks : 70]

Note : Attempt **six** questions in all, Question No. **1** is compulsory. Attempt remaining **five** questions, out of remaining **eight** questions carrying 10 marks each.

Compulsory Question

1. Answer the following questions : $5 \times 4 = 20$

- (a) What is the importance of HR Policy in an organisation?
- (b) What is the difference between Recruitment and Selection?
- (c) What is the purpose of Job evaluation?
- (d) What is the relation between Industrial Relations and HRM?
- (e) What is the difference between Performance appraisal and Potential appraisal?

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P. T. O.

2. What are the main HR Operational functions? Explain the challenges faced by HR Managers in Present Business Environment. 10
3. Discuss the nature and scope of HRM with the help of Harvard HR Model. 10
4. How do you identify the Training need? Explain the training method with their merits and demerits.
5. What is nature and meaning of Job Analysis and briefly discuss the methods of job analysis ? 10
6. What are the key components of a Pay package of an Employee? Discuss the main programs of rewards and recognition in an Organisation. 10
7. Why Occupational Health and Safety at work place is important? Explain the legal provisions regarding Occupational Health and Safety in an Organisation. 10
8. What do you understand by Employee Engagement? Explain the methods/ techniques to boost Employee engagement at work place. 10
9. What do you know about Social Media? Write a detail note on 'Social Media and HR'. 10

Roll No:

Total Pages : 3

MMS/M-25

27701

**PRODUCTION AND OPERATIONS
MANAGEMENT**

Paper-M24-MBA-206

Time Allowed : 3 Hours]

[Maximum Marks : 70

Note : Attempt **five** questions in all, selecting **one** question from each Unit. Question No. **1** is compulsory. All questions carry equal marks.

Compulsory Question

1. Write short notes on the following : 4×3½=14
 - (a) Explain the scope of Production and Operations Management.
 - (b) What are the key differences between Product and Batch production systems?
 - (c) State four objectives of Production Planning and Control (PPC).
 - (d) What is Just-in-Time (JIT) in Inventory management?

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P. T. O.

UNIT-I

2. Discuss the factors influencing the selection of Facility location in a Manufacturing setup. How do location analysis techniques help in decision-making? 14
3. Explain the various types of Production systems in detail. Provide examples of Industries or companies that utilize each system. What are the challenges associated with each system? 14.

UNIT-II

4. What are the key functions of Production Planning and Control (PPC)? Discuss how PPC helps in ensuring smooth production operations and meeting Customer demands.? 14
5. What is Aggregate planning? Describe the process of Master production scheduling and its importance in Production planning. 14

UNIT-III

6. What is the role of Work measurement in improving productivity? Explain how it differs from method study with suitable examples? 14
7. Explain the key components of Material management. How does an efficient material management system help reduce production costs? 14

UNIT-IV

8. What is Statistical Quality Control (SQC)? Discuss the methods of SQC and how they help in maintaining product quality in Manufacturing? 14
9. Explain the concept of Total Quality Management (TQM). How does it differ from traditional quality control? Discuss the significance of ISO-9000 certification in enhancing the quality of Products and Services. 14