Question Paper Code: 24MBAP113

MADANAPALLE INSTITUTE OF TECHNOLOGY & SCIENCE, MADANAPALLE
(UGC-AUTONOMOUS)

MBA II Year I Semester (R24) Regular End Semester Examinations, December - 2025
OPERATIONS RESEARCH

Time: 3Hrs

Max Marks: 60

Attempt all the questions. All parts of the question must be answered in one place only.
In Q.no 1 to 5 answer either A or B only. Q.no 6, which is a case study is compulsory.

Q.No	Question	Marks	CO	BL
Q.1(A)	Solve the L.P.P. graphically: $Min.Z = 3x_1 + 5x_2$ Subject to $x_1 \le 4$; $2x_2 \le 6$; $3x_1 + 2x_2 \le 18$; $x_1 + x_2 \le 9$; $x_1, x_2 \ge 0$	10M	1	3
	OR			
Q.1(B)	Explain the Simplex algorithm to solve an LPP.	10M	1	2
Q.2(A)	Find the initial basic feasible solution to the following transportation problem by a) Northwest corner cell method b) Least cost cell method c) VAM method	10M	2	3

	D1	D2	D3	D4	Availability
P1	19	30	50	12	7
P2	70	30	60	20	10
P3	40	10	60	20	18
Requirement	5	8	7	15	35

OR

Q.No	Question	Marks	CO	BL
Q.2(B)	Solve the following assignment problem:	10M	2	3

$$\begin{array}{c c c c c c} & I & II & III & IV & V \\ A & \begin{bmatrix} 3 & 8 & 2 & 10 & 3 \\ B & 8 & 7 & 2 & 9 & 7 \\ C & 6 & 4 & 2 & 7 & 5 \\ D & 8 & 4 & 2 & 3 & 5 \\ E & 9 & 10 & 6 & 9 & 10 \end{bmatrix} \end{array}$$

Q.No	Question	Marks	CO	BL
Q.3(A)	Players A and B play a game in which each player has three coins [25p, 50p and 100p (one rupee)]. Each of them selects a coin without the knowledge of the other person. If the sum of the values of the coins is an even number, A wins B's coin. If that sum is an odd number, B wins A's coin. (a) Develop a payoff matrix with respect to Player A. (b) Find the optimal strategies for the players.	10M	3	3
	OR			
Q.3(B)	For what value of λ, the game with following pay-off matrix is strictly determinable?	10M	3	3

Player *B*

Player *A*	B_1	B_2	B_3
A_1	λ	6	2
A_2	−1	λ	−7
A_3	−2	4	λ

Q.No	Question	Marks	CO	BL
Q.4(A)	A taxi owner estimates from his past records that the cost per year for operating a taxi whose purchase price when new is Rs 60,000 are	10M	4	3

as given below:

Age	1	2	3	4	5
Operating Cost	10000	12000	15000	18000	20000

After 5 years, the operating cost is Rs 6000k, where k=6,7,8,9,10 (k denoting age in years). If the resale value decreases by 10% of purchase price each year, what is the best replacement policy?

OR

Q.4(B) A confectioner sells confectionery items. Past data of demand per week in '00 kgs with frequency are   10M   4   3

Demand	0	5	10	15	20	25
Frequency	2	11	8	21	5	3

Generate the demand for next 10 weeks. Also find out the average demand per week.

Q.5(A) The following table gives the activities of construction project and duration: 10M   5   3

Activity	1-2	1-3	2-3	2-4	3-4	4-5
Duration (days)	20	25	10	12	5	10

Draw the network for the project. Find the critical path and project duration.

OR

Q.5(B) i. Explain the concept of Queuing Theory   10M   5   2
ii. Describe Structure of a Queuing System

Q.6   **CASE STUDY**   10M   1   4

A Company making cool drinks has two bottling plants P_1 and P_2.

Each plant produces three drinks; Coca-cola, Thumps up and Sprite and their production capacity per day is shown below:

Cool drink	P_1	P_2
Coca-cola	6000	2000
Thumps up	1000	2500
Sprite	3000	3000

The marketing department of the Company forecasts a demand of 80,000 bottles of Coca-Cola; 22,000 bottles of Thumps up; and 40,000 bottles of Sprite during the month of June. The operating costs per day of plants P_1 and P_2 are Rs.60, 000 and Rs.40, 000 respectively. Find the number of days for which each plant must be run in June so as to minimize the operating costs while meeting the marketing demand solve graphically

END

MADANAPALLE INSTITUTE OF TECHNOLOGY & SCIENCE, MADANAPALLE
(UGC-AUTONOMOUS)
MBA II Year I Semester (R24) Regular End Semester Examinations, December - 2025
INNOVATION, BUSINESS MODELS AND ENTREPRENEURSHIP

Time: 3Hrs

Max Marks: 60

> Attempt all the questions. All parts of the question must be answered in one place only.
> **In Q.no 1 to 5 answer either A or B only. Q.no 6 which is a case study is compulsory.**

Q.No	Question	Marks	CO	BL
Q.1(A)	Explain the major schools of innovation and describe their relevance in understanding innovative practices.	10M	1	2
	OR			
Q.1(B)	Discuss design thinking relevance in entrepreneurship and innovation development.	10M	1	2
Q.2(A)	Explain Idea Championship objectives and discuss how it encourages innovation and idea selection within organizations.	10M	2	2
	OR			
Q.2(B)	Discuss the tools and frameworks used in Blue Ocean Strategy to achieve value innovation.	10M	2	2
Q.3(A)	Illustrate the Technology Innovation Process by applying it to the development and commercialization of a new product or service.	10M	3	3
	OR			
Q.3(B)	Apply the concepts of marketing of innovation and technology forecasting to design a launch strategy for a new technological product.	10M	3	3
Q.4(A)	Analyze the relationship between sustainability, innovation, and entrepreneurship in achieving long-term economic and environmental goals.	10M	4	4
	OR			
Q.4(B)	Examine the role of SMEs in adopting innovative and sustainable business models for resource efficiency.	10M	4	4
Q.5(A)	Examine the different types of Intellectual Property Rights (IPR) with suitable examples.	10M	5	4
	OR			
Q.5(B)	Examine the challenges involved in managing investors for innovation and analyze strategies to build effective investor relationships.	10M	5	4
Q.6	**CASE STUDY**	10M	1	5

Product Innovation at a Consumer Electronics Start-up

A consumer electronics start-up aimed to design a low-cost wearable device for health monitoring. In the early stages, the innovation team encouraged divergent thinking by brainstorming freely without constraints. Ideas ranged from fitness tracking rings and smart patches to AI-enabled earphones. No ideas were rejected at this stage, and creativity was emphasized over feasibility. After generating multiple concepts, the team shifted to convergent thinking to evaluate ideas based on cost, technical feasibility, market demand, and scalability. Using scoring models and customer feedback, the team narrowed the options to two viable

concepts. Finally, one product was selected for prototyping and testing. This structured transition from divergence to convergence helped the start-up innovate effectively while minimizing risk.

Questions
a) Assess how divergent and convergent thinking were applied at different stages of the innovation process.
b) Examine the benefits of separating idea generation from idea evaluation in innovation management.
c) Suggest how the start-up could further improve its thinking process to enhance innovation outcomes

<div align="center">***END***</div>

MADANAPALLE INSTITUTE OF TECHNOLOGY & SCIENCE, MADANAPALLE
(UGC-AUTONOMOUS)

MBA II Year I Semester (R24) Regular End Semester Examinations, December - 2025

STRATEGIC MANAGEMENT

Time: 3Hrs   Max Marks: 60

Attempt all the questions. All parts of the question must be answered in one place only.
In Q.no 1 to 5 answer either A or B only. Q.no 6 which is a case study is compulsory.

Q. No	Question	Marks	CO	BL
Q.1(A)	Define Strategy. Explain the concept and role of strategy in achieving organizational objectives. Illustrate your answer with suitable examples.	10M	1	2
	OR			
Q.1(B)	Explain the strategic role of the Board of Directors and Top Management in corporate governance and strategic control.	10M	1	2
Q.2(A)	Describe the process of Environmental Analysis and Diagnosis. How do organizations scan and interpret their environment?	10M	2	2
	OR			
Q.2(B)	Explain the Market Life Cycle Model. Discuss strategic implications at different stages of the life cycle.	10M	2	2
Q.3(A)	What is corporate restructuring? Explain the different forms of restructuring and their strategic significance.	10M	3	2
	OR			
Q.3(B)	Describe the characteristics of hyper-competitive and turbulent industries. What strategic responses are required in such environments?	10M	3	2
Q.4(A)	Examine the importance of organizational culture and leadership in successful strategy execution.	10M	4	4
	OR			
Q.4(B)	Explain the role of organizational structure and design in effective strategy implementation.	10M	4	3
Q.5(A)	What is benchmarking? Explain how benchmarking is used to evaluate strategic performance.	10M	5	2
	OR			
Q.5(B)	Examine the ethical dilemmas in strategy execution across national borders. Suggest measures to manage such ethical challenges.	10M	5	4
Q.6	**CASE STUDY**	10M	2	4

A diversified company operates in four business segments: consumer electronics, renewable energy, FMCG, and logistics. The management wants to evaluate the performance of these businesses and decide future investment priorities.

Questions:
1.Apply the BCG Matrix to analyze the portfolio.
2. Explain how Balanced Scorecard can be used to monitor strategy implementation.

*** END***

Hall Ticket No: ☐☐☐☐☐☐☐☐☐☐

Question Paper Code: 24MBAP505

MADANAPALLE INSTITUTE OF TECHNOLOGY & SCIENCE, MADANAPALLE
(UGC-AUTONOMOUS)
MBA II Year I Semester (R24) Regular End Semester Examinations, December - 2025
INTERNATIONAL BUSINESS

Time: 3Hrs

Max Marks: 60

Attempt all the questions. All parts of the question must be answered in one place only.
In Q.no 1 to 5 answer either A or B only. Q.no 6, which is case study, is compulsory.

Q.No	Question	Marks	CO	BL
Q.1(A)	What is globalization? Discuss the various stages of globalization with suitable examples	10M	1	2
	OR			
Q.1(B)	Describe the theories of international trade and explain any three theories in detail	10M	1	2
Q.2(A)	Explain the concept of Balance of Payments and discuss its importance in the context of the current international trading economy	10M	2	2
	OR			
Q.2(B)	Examine the role and functions of the International Bank for Reconstruction and Development (IBRD) in promoting international business	10M	2	3
Q.3(A)	Discuss the role and implications of tariff and non-tariff barriers in international business	10M	3	2
	OR			
Q.3(B)	Compare and contrast FDI and its various modes of entry	10M	3	3
Q.4(A)	Explain how human resource management can be leveraged as a tool for building competitiveness in global business enterprises	10M	4	2
	OR			
Q.4(B)	Discuss the key issues faced in international human resource management and suggest strategies to address them	10M	4	2
Q.5(A)	Examine the role of economic processing zones and their benefits in shaping international trade policy	10M	5	3
	OR			
Q.5(B)	Evaluate the role of ESG practices in enhancing global business competitiveness	10M	5	5
Q.6	**CASE STUDY**	10M	1	3

Globalization is a channel which creates interconnectivity among countries. The role of globalization varies as it depends on the nation's ability to attain maximum potential from the available resources. Once the Maximization of these resources attained then it will eventually result in economic development Of any country .many countries are increasing reaping the benefits of Globalization as it brings with it Technology transfer opportunities of Trading Benefits of powerful currency , job opportunities , variety of goods and Services and of other benefits but their also a negative aspects also Related to this whole globalization business.

Questions:

    (i)   Do you think globalization and MNE activity are creating problems for the world? What are the unintended consequences of international Business.

    (ii)   Summarize the arguments in favor of globalization made by the business Executive? What is the role of technology in supporting company performance in a globalizing business environment?

END

MADANAPALLE INSTITUTE OF TECHNOLOGY & SCIENCE, MADANAPALLE
(UGC-AUTONOMOUS)
MBA II Year I Semester (R24) Regular End Semester Examinations, December - 2025
SECURITY ANALYSIS AND PORTFOLIO MANAGEMENT

Time: 3Hrs

Max Marks: 60

> Attempt all the questions. All parts of the question must be answered in one place only.
> **In Q.no 1 to 5 answer either A or B only. Q.no 6 which is a case study is compulsory.**

Q.No	Question	Marks	CO	BL
Q.1(A)	a. Define investment and explain its basic meaning with suitable examples.	5M	1	2
	b. Illustrate the role of SEBI in regulating Indian capital markets.	5M	1	3
	OR			
Q.1(B)	Evaluate the importance of stock exchanges in promoting investor confidence and economic growth.	10M	1	4
Q.2(A)	Mr. Rajaram has a 14% debenture with face value of Rs.1000 that matures at par in 15 years. The debenture is callable in five years at Rs.1180. it currently sells (Market price) for Rs.1030. Calculate each of the following for this debenture. (a) Yield to Maturity. (b) Yield to Call	10M	2	4
	OR			
Q.2(B)	Evaluate the usefulness of risk–return analysis in making rational investment decisions.	10M	2	5
Q.3(A)	a. Explain fundamental analysis and technical analysis.	5M	3	2
	b. Identify support and resistance levels using price data.	5M	3	3
	OR			
Q.3(B)	Analyze different **technical charts**—line, bar, candlestick, and point & figure charts.	10M	3	4
Q.4(A)	a. Define portfolio management and explain its objectives.	5M	4	2
	b. Illustrate the concept of diversification in portfolio management.	5M	4	2
	OR			
Q.4(B)	Given the Following variance- co variance matrix for three securities as well as the percentage of the port-folio that each security comprises, Calculate the Port-Folio's Standard deviation.	10M	4	5

Security	A	B	C
A	425	-190	120
B	-190	320	205
C	120	205	175
	WA =0.35	WB =0.25	WC =0.35

Q.No	Question	Marks	CO	BL
Q.5(A)	a. Explain equity and bond fund management	5M	5	2
	b. Distinguish between active and passive portfolio management strategies.	5M	5	2
	OR			
Q.5(B)	Evaluate the relevance of Fama's performance measure in assessing mutual fund performance.	10M	5	5
Q.6	**CASE STUDY**	10M	3	5
	Anita, an individual investor with five years of experience in the stock market, plans to invest in the shares of Beta Technologies Ltd., a listed IT company in India. Before investing, she wants to			

understand whether the stock is fundamentally strong and whether the timing of investment is appropriate. To achieve this, Anita applies both Fundamental Analysis and Technical Analysis.

Under **Fundamental Analysis**, Anita begins with economic analysis, reviewing macroeconomic indicators such as GDP growth, inflation rate, interest rates, and government policies affecting the IT sector. A stable economy and increasing digital adoption indicate favorable conditions. Next, she conducts industry analysis, examining the growth prospects of the IT industry, competition, technological changes, and export demand. The industry outlook appears positive due to rising global demand for digital transformation services. Finally, she performs **company analysis**, evaluating Beta Technologies' financial statements, profitability ratios, earnings growth, management quality, and competitive advantage. The analysis suggests that the company is financially sound with consistent earnings growth.

To complement this, Anita applies Technical Analysis to identify the right entry point. She studies historical price and volume data using **Excel**. By plotting **line** charts, bar charts, and candlestick charts, she observes price trends and patterns. Using Dow Theory, she identifies a primary upward trend. She further analyzes support and resistance levels, noting that the stock repeatedly rebounds from a strong support level. A head and shoulders pattern appears but is incomplete, suggesting no immediate trend reversal.

Anita also uses technical indicators such as Moving Averages **and the** Relative Strength Index (RSI). The short-term moving average crossing above the long-term moving average indicates a bullish signal, while an RSI value of 55 suggests the stock is neither overbought nor oversold. Based on the combined insights from fundamental strength and technical signals, Anita decides to invest in the stock with confidence and proper timing.

Questions:
1. How does fundamental analysis at the economy, industry, and company levels help in evaluating the long-term potential of a stock?
2. Explain the role of charts, RSI, and moving averages in technical analysis for identifying buy or sell signals.

END

MADANAPALLE INSTITUTE OF TECHNOLOGY & SCIENCE, MADANAPALLE
(UGC-AUTONOMOUS)
MBA II Year I Semester (R24) Regular End Semester Examinations, December - 2025
HR ANALYTICS

Time: 3Hrs

Max Marks: 60

Attempt all the questions. All parts of the question must be answered in one place only.
In Q. No 1 to 5 answer either Part A or Part B only. Q. No 6 which is a Case Study is compulsory.

Q. No	Question	Marks	CO	BL
Q.1(A)	Explain the concept of HR Analytics. Discuss its key components and explain how HR Analytics supports strategic decision-making in modern organizations.	10M	1	4
	OR			
Q.1(B)	Critically evaluate how HR Analytics transforms HR from an operational function to a strategic business partner. Discuss the challenges and ethical issues associated with data-driven HR practices.	10M	1	4
Q.2(A)	Describe the HR Intelligence Cycle in detail. How does each stage of the cycle contribute to evidence-based HR decision-making? Illustrate your answer with suitable organizational examples.	10M	2	3
	OR			
Q.2(B)	An IT organization is experiencing rising employee turnover and declining engagement levels. HR has access to large volumes of workforce data but struggles to derive insights. Explain how HR Analytics and Data Visualization techniques can be used to diagnose the problem and support strategic decision-making. Suggest suitable dashboards and visual tools.	10M	2	4
Q.3(A)	Explain the concept of yield (selection) rate in recruitment. How do job offer acceptance and decline rates reflect the effectiveness of an organization's employer value proposition? Discuss with examples.	10M	3	4
	OR			
Q.3(B)	A growing IT services firm reports that although it fills vacancies quickly, project delays continue due to low employee productivity during the initial months. a) Define time-to-start and time-to-productivity. b) Analyze the possible reasons for this gap.	10M	3	4
Q.4(A)	An organization plans to introduce a performance-linked training strategy to enhance workforce capability. Design a framework integrating training metrics (training hours, training spend, ROI) with organization-level employee performance metrics to support this strategy.	10M	4	4
	OR			
Q.4(B)	Explain the key employee training metrics such as Training Participation Rate, Training Cost per Employee, Training Hours, and Training Spend. Discuss how these metrics help HR managers in assessing the effectiveness of training programs.	10M	4	3
Q.5(A)	Evaluate the services provided by EPFO and explain their significance in ensuring employee welfare and payroll compliance.	10M	5	4

OR

Q.5(B)	Critically evaluate the role of HR technology tools in payroll and compensation management. Discuss how digital payroll systems enhance accuracy, compliance, and strategic decision-making in modern organizations.	10M	5	4

Q.6	**CASE STUDY**	10M	5	4

XYZ Manufacturing Ltd. employs 350 workers at its Hyderabad plant. Employees earning below ₹21,000 per month are covered under ESI, while others fall under EPF. Many employees have complained about delays in PF transfers, lack of awareness of UAN, and confusion regarding leave encashment and statutory leave benefits.

The HR Head plans to redesign the payroll and employee communication system to ensure legal compliance and employee satisfaction.

Questions

1) Discuss the role of UAN and key services provided by EPFO in addressing employee grievances.
2) As an HR consultant, evaluate the legal and administrative risks if statutory payroll provisions are not properly implemented.

END

Hall Ticket No: ☐☐☐☐☐☐☐☐☐☐   Question Paper Code: 24MBAP423

MADANAPALLE INSTITUTE OF TECHNOLOGY & SCIENCE, MADANAPALLE
(UGC-AUTONOMOUS)
MBA II Year I Semester (R24) Regular End Semester Examinations, December - 2025
DIGITAL MARKETING

Time: 3Hrs

Max Marks: 60

Attempt all the questions. All parts of the question must be answered in one place only.
In Q.no 1 to 5 answer either A or B only. Q.no 6, which is a case study is compulsory.

Q.No	Question	Marks	CO	BL
Q.1(A)	Describe how digital marketing evolved across Web 1.0, Web 2.0, and Web 3.0 environments.	10M	1	2
	OR			
Q.1(B)	Compare traditional marketing and digital marketing with suitable examples.	10M	1	2
Q.2(A)	Describe the major On-page and Off-page SEO techniques used to improve website visibility, illustrating each with examples.	10M	2	2
	OR			
Q.2(B)	Explain how different online advertising techniques are used by digital marketers to promote products and services.	10M	2	2
Q.3(A)	Apply the concepts of artificial intelligence to explain how AI-powered chatbots and other AI tools are used to engage customers and improve marketing effectiveness on social media platforms.	10M	3	3
	OR			
Q.3(B)	Apply the concept of social media to explain how different types of social media platforms are used by businesses to effectively reach and engage customers.	10M	3	3
Q.4(A)	Analyze the steps involved in creating a YouTube channel by examining the key stages of setup and content planning and highlight the significant factors that must be focused on for channel success, with a suitable example.	10M	4	4
	OR			
Q.4(B)	a) Analyze how WhatsApp Business functions as a marketing tool. b) Examine the concept of the social media funnel in guiding customers from awareness to conversion.	5M 5M	4 2	4 2
Q.5(A)	Examine the key components of Online Reputation Management and analyze how each component contributes to effective brand management.	10M	5	4
	OR			
Q.5(B)	Analyze the role of content management systems (CMS) in planning, organizing, and delivering digital marketing content effectively.	10M	5	4
Q.6	**CASE STUDY**	10M	5	5

Nike has transformed its digital marketing by focusing on data-driven personalization and community building. Through platforms like the Nike app and SNKRS app, the company delivers personalized product recommendations, exclusive launches, and fitness content. Nike integrates social media marketing, influencer collaborations, and user-generated content to strengthen brand engagement. Email marketing and push notifications are customized based on user activity and preferences. Nike also uses AI and analytics to track customer behavior and improve targeting. The digital strategy has helped Nike increase direct-to-consumer sales and reduces dependence on physical retail stores. However, challenges such as data privacy and intense competition remain significant.

Questions:

a) Assess how personalization enhances Nike's digital marketing effectiveness.

b) Assess the role of data analytics in Nike's customer engagement strategy

c) Identify challenges in Nike's digital marketing approach and suggest improvement

END

Hall Ticket No: ☐☐☐☐☐☐☐☐☐☐   Question Paper Code: 24MBAP445

MADANAPALLE INSTITUTE OF TECHNOLOGY & SCIENCE, MADANAPALLE
(UGC-AUTONOMOUS)
MBA II Year I Semester (R24) Regular End Semester Examinations, December - 2025
AI IN BUSINESS DECISION MAKING

Time: 3Hrs   Max Marks: 60

> Attempt all the questions. All parts of the question must be answered in one place only.
> **In Q.no 1 to 5 answer either A or B only. Q.no 6 which is a case study is compulsory.**

Q.No	Question	Marks	CO	BL
Q.1(A)	i. Write an SQL query to count the number of AI applications used in each industry and display the output grouped by industry to understand sector-wise adoption levels.	5M	1	3
	ii. Write an SQL query to count how many AI applications belong to each sector and present them in descending order to identify which sector uses AI most frequently.	5M	1	3
	OR			
Q.1(B)	Explain what Artificial Intelligence means and discuss in detail its growth and present scenario.	10M	1	2
Q.2(A)	Suppose 10000 patients get tested for flu; out of them, 9000 are healthy and 1000 are sick. For the sick people, the test was positive for 620 and negative for 380. For healthy people, the same test was positive for 180 and negative for 8820. Construct a confusion matrix for the data and compute the accuracy, precision, and recall for the data.	10M	2	2
	OR			
Q.2(B)	i. Create a simple training dataset by selecting the first 70% of records from a table so that basic data partitioning can be simulated.	5M	2	3
	ii. Create a testing dataset by selecting the 30% of records from the table to complete the simulation of a train-test split.	5M	2	3
Q.3(A)	i. Create a database and a table for storing student attendance metadata such as student ID, name, date, and status.	5M	3	3
	ii. Write an SQL query to perform min-max normalization on a numeric column by applying the formula (value − min)/(max − min) to convert values into a 0–1 range.	5M	3	3
	OR			
Q.3(B)	What is the philosophy of Occam's Razor and its relevance to ML model selection?	10M	3	2
Q.4(A)	Draw and Explain architecture of Convolutional Neural Network (CNN).	10M	4	3
	OR			
Q.4(B)	i. Create a database for image metadata, including defining table fields such as image ID, file size, width, height, and label, and explain how this helps in managing CNN training data.	5M	4	3
	ii. Create sequential time-based windows from a dataset containing date and value columns	5M	4	3
Q.5(A)	i. Develop an SQL statement that fetches and organizes image metadata efficiently.	5M	5	3
	ii. Write an SQL statement that categorizes ages as Child, Adult, or Senior using CASE.	5M	5	3
	OR			
Q.5(B)	Discuss the major advantages and drawbacks of decision trees.	10M	5	2

Construct an ER Diagram for Company having following details: Company organized into DEPARTMENT. Each department has unique name and a particular employee who manages the department. Start date for the manager is recorded. Departments may have several locations. The department controls several PROJECTS. Projects have a unique name, number, and a single location. Company's EMPLOYEE name, ssno, address, salary, sex, and birth date are recorded. An employee is assigned to one department but may work for several projects (not necessarily controlled by her dept). Number of hours/weeks an employee works on each project is recorded, The immediate supervisor for the employee. Employee's DEPENDENT are tracked for health insurance purposes (dependent name, birthdate, relationship to employee).

END

Hall Ticket No: ☐☐☐☐☐☐☐☐☐☐ Question Paper Code: 24MBAP445

MADANAPALLE INSTITUTE OF TECHNOLOGY & SCIENCE, MADANAPALLE
(UGC-AUTONOMOUS)

MBA II Year I Semester (R24) Regular End Semester Examinations, December - 2025

AI IN BUSINESS DECISION MAKING

Time: 3Hrs   Max Marks: 60

> Attempt all the questions. All parts of the question must be answered in one place only.
> **In Q.no 1 to 5 answer either A or B only. Q.no 6 which is a case study is compulsory.**

Q.No	Question	Marks	CO	BL
Q.1(A)	A retail chain is facing fluctuating sales due to inconsistent demand forecasting. The management decides to adopt an AI-powered forecasting system that uses customer purchase history, social media trends, and real-time weather data to predict demand for each product category. After implementation, the company notices improved stock management but also resistance from staff who feel threatened by automation. a) Identify how AI improved decision-making. b) What key performance indicators (KPIs) can the company use to measure AI effectiveness? c) How can the management address employee resistance to AI adoption?	10M	1	3
	OR			
Q.1(B)	i. Write an SQL query to count the number of AI applications used in each industry and display the output grouped by industry to understand sector-wise adoption levels.	5M	1	3
	ii. Write an SQL query to group all AI applications by country and count how many applications belong to each country to compare AI adoption across regions.	5M	1	3
Q.2(A)	Explain different types of Machine Learning with different use cases of them.	10M	2	2
	OR			
Q.2(B)	i. Create an SQL command that applies COALESCE to change NULL values in the salary field to 0.	5M	2	4
	ii. Write an SQL statement that substitutes 0 for NULL values in the salary column using if null.	5M	2	3
Q.3(A)	What is a confusion matrix? Explain in detail with the help of an example	10M	3	2
	OR			
Q.3(B)	i. Create a database and design a table to store attendance metadata such as student ID, name, date, and attendance status.	5M	3	3
	ii. Build an SQL command using CASE to group age ranges into simple decision-tree categories.	5M	3	3
Q.4(A)	Discuss how Artificial Neural Networks work and provide examples to support your explanation.	10M	4	2
	OR			
Q.4(B)	i. Write an SQL query to create time-lagged sequences for RNN/LSTM	5M	4	3
	ii. Write a query to group images by category for CNN training.	5M	4	3
Q.5(A)	Discuss the major advantages and drawbacks of decision trees	10M	5	2
	OR			

Q.5(B)	i. Write an SQL command to implement min-max normalization on a numeric attribute.	5M	5	3
	ii. Build an SQL command using CASE to group age ranges into simple decision-tree categories.	5M	5	3
Q.6	**CASE STUDY**	10M	4	4

Q.6   **CASE STUDY**

A university registrar's office maintains data about the following entities:

1. Courses, including number, title, credits, syllabus, and prerequisites.
2. Course offerings, including course number, year, semester, section number, instructor(s), timings, and classroom.
3. Students, including student-id, name, and program.
4. Instructors, including ident cation number, name, department, and title.

Further, the enrollment of students in courses and grades awarded to students on each course they are enrolled for must be appropriately modeled. Construct an E-R diagram for the registrar's office. Document all assumptions that you make about the mapping constraints.

END

MADANAPALLE INSTITUTE OF TECHNOLOGY & SCIENCE, MADANAPALLE
(UGC-AUTONOMOUS)
MBA II Year I Semester (R24) Regular End Semester Examinations, December - 2025
FINANCIAL DERIVATIVES

Time: 3Hrs   Max Marks: 60

> Attempt all the questions. All parts of the question must be answered in one place only.
> **In Q.no 1 to 5 answer either A or B only. Q.no 6 which is a case study is compulsory.**

Q.No	Question	Marks	CO	BL
Q.1(A)	Explain the advantages of derivatives with special reference to India.	10M	1	2
	OR			
Q.1(B)	Define the term derivatives. Elaborate upon the different types of traders in the derivatives market.	10M	1	2
Q.2(A)	Mr. Venkat enters into futures contract on given stock in the table. You are required to determine the price of futures contract. Assume that the dividend is expected two months from now.	10M	2	5

Name of the stock	Stock price	Risk free rate of return	Duration of the contract	Expected Dividend
Green Star	350	8%	4- months	Rs.25
Blue Star	480	6 %	4- months	Rs.30
Red Star	370	7%	4- months	Rs.45

OR

Q.No	Question	Marks	CO	BL
Q.2(B)	Compare and contrast between forward and futures contract in detail?	10M	2	3
Q.3(A)	Stock future contract Size- 100 shares Investors buys one December stock future contract on 1 November at Rs. 900 per share. Initial Margin 10% on Contract value. Maintenance margin 75% on initial margin? Share prices for 10 days is as given below	10M	3	5

Day	Share price	Day	Share price
NOV-1	900	NOV-8	887
NOV-2	903	NOV-9	894
NOV-3	898	NOV-10	901
NOV-4	890	NOV-11	905
NOV-5	892	NOV-12	910

You are required to prepare Buyers Account (Long position) and Sellers account (short position) under the Mark -to-Market

OR

Q.No	Question	Marks	CO	BL
Q.3(B)	Distinguish between i. Call options and Put Options in detail. ii. European and American Options in detail	10M	3	3
Q.4(A)	Define SWAP Derivatives, explain the features and types of SWAP derivatives	10M	4	2
	OR			
Q.4(B)	Rekha company Ltd. & Surekha company Ltd. Entered into a SWAP Derivatives to exchange of cash flows of Rs.20,00,000 on loan. Rekha company wish to take loan at floating rate of interest and Surekha company Ltd. wish to take loan at fixed rate. In this Contract AXIS bank acted as Intermediary and eligible to take	10M	4	5

commission 0.2%

Name of the Company	Fixed rate	Floating rate
Rekha	13.5%	MIBOR +0.2%
Surekha	15%	MIBOR +0.8%

Cash flows will be exchange for every 6 months. MIBOR last three-year rates are given asfollows:

DATES	MIBOR
20th March-2021	8.5%
20th Sept 2021	9.25%
20th March-2022	9.75%
20th Sept 2022	11.50%
20th March-2023	12.75%
20th Sept 2023	13.25%

You are required to compute the competitive advantage and prepare net cash flow statement among the parties

Q.5(A)	Define Credit Derivatives and explain its features and types	10M	5	2

OR

Q.5(B)	Explain about the Monte Carlo Approach.	10M	5	2
Q.6	**Case study**	10M	4	5

The following data is extracted from an investment company.

Particulars	Stock- X	Stock -Y
Stock Price	Rs. 100	Rs. 100
Exercise Price	Rs.90	Rs. 80
Time to expiration	3 months	3 months
Risk free rate of interest	12%	12%
Standard deviation	0.60	0.60

Calculate the value of call option for both stocks with Black Scholes model.

END

MADANAPALLE INSTITUTE OF TECHNOLOGY & SCIENCE, MADANAPALLE
(UGC-AUTONOMOUS)
MBA II Year I Semester (R24) Regular End Semester Examinations, December - 2025
INDUSTRIAL RELATIONS AND LABOUR CODES

Time: 3Hrs

Max Marks: 60

Attempt all the questions. All parts of the question must be answered in one place only.
In Q.no 1 to 5 answer either A or B only. Q.no 6 which is a case study is compulsory.

Q.No	Question	Marks	CO	BL
Q.1(A)	Critically examine how the Occupational Safety, Health and Working Conditions Code, 2020 integrates multiple labour legislations. Highlight its implications for employers and employees.	10M	1	2
	OR			
Q.1(B)	(i) Explain provisions relating to inter-state migrant workers under the OSHWC Code.	5M	1	2
	(ii) Discuss the challenges in the implementation of safety standards in small establishments.	5M	1	2
Q.2(A)	Explain the institutional architecture created under the Social Security Code, 2020 for administering welfare schemes.	10M	2	3
	OR			
Q.2(B)	(i). Examine the legal intent behind employment-linked income security measures.	5M	2	2
	(ii). Discuss the role of the State in extending social protection to informal workers.	5M	2	2
Q.3(A)	Critically examine the need for wage law consolidation in the context of India's labour market diversity.	10M	3	3
	OR			
Q.3(B)	Analyze the principles that determine the legality of wage deductions and evaluate the effectiveness of penalty provisions as a deterrent against wage-related violations."	10M	3	5
Q.4(A)	Industrial Relations are shaped by power, negotiation, and cooperation. Examine this statement in the Indian context.	10M	4	4
	OR			
Q.4(B)	Analyze the role of trade unions in shaping modern industrial relations in India.	10M	4	4
Q.5(A)	Analyze the institutional framework established under the Industrial Code, 2020 for dispute resolution.	10M	5	5
	OR			
Q.5(B)	(i). Examine unfair labour practices from the employer's perspective.	5M	5	3
	(ii). Discuss the significance of grievance redressal committees.	5M	5	2
Q.6	**CASE STUDY**	10M	2	5

Q.6 **CASE STUDY**

Mr. Anand was employed in a pharmaceutical manufacturing unit for 7 years and 11 months. Due to repeated exposure to hazardous substances, he developed an occupational illness certified by a medical authority. The employer terminated his services citing incapacity and paid statutory compensation but denied terminal benefits.

Questions:
1. Examine the employer's obligations under labour laws in cases of employment-related health impairment.
2. Determine whether Mr. Anand is entitled to gratuity and justify your answer with calculation, if applicable.

END

Hall Ticket No: ☐☐☐☐☐☐☐☐☐☐   Question Paper Code: 24MBAP425

MADANAPALLE INSTITUTE OF TECHNOLOGY & SCIENCE, MADANAPALLE
(UGC-AUTONOMOUS)
MBA II Year I Semester (R24) Regular End Semester Examinations, December - 2025
CONSUMER BEHAVIOR AND CRM

Time: 3Hrs   Max Marks: 60

> Attempt all the questions. All parts of the question must be answered in one place only.
> **In Q.no 1 to 5 answer either A or B only. Q.no 6 which is a case study is compulsory.**

Q.No	Question	Marks	CO	BL
Q.1(A)	(i). Define consumer behavior and explain its nature and scope.	5M	1	2
	(ii). Illustrate the consumer decision-making process with a suitable example.	5M	1	2
	OR			
Q.1(B)	Analyze the impact of social media and technology on consumer buying behavior, comparing online and offline purchasing.	10M	1	4
Q.2(A)	Explain the Nicosia Model and Schiffman & Kanuk's Model of consumer decision making.	10M	2	2
	OR			
Q.2(B)	(i). Apply the Howard–Sheth Model to explain the purchase of a high-involvement product.	5M	2	3
	(ii). Describe the learning model and psychoanalytical model of consumer behavior with examples.	5M	2	2
Q.3(A)	(i). Define CRM and explain its significance to organizations	5M	3	2
	(ii). Discuss Success Factors in CRM	5M	3	2
	OR			
Q.3(B)	Evaluate the role of Social CRM (SCRM) in managing customer engagement using platforms like Facebook, Instagram	10M	3	5
Q.4(A)	Assess the role of AI in CRM including predictive analytics, chatbots, and automation.	10M	4	3
	OR			
Q.4(B)	(i). Explain the concepts of service failure and service recovery management.	5M	4	3
	(ii). Define Customer Lifetime Value (CLV) and customer profitability.	5M	4	2
Q.5(A)	(i). Explain post-purchase cognitive dissonance and its impact on satisfaction.	5M	5	2
	(ii). Define customer satisfaction and explain its significance.	5M	5	2
	OR			
Q.5(B)	Evaluate the impact of digital footprint and privacy concerns on consumer trust and brand loyalty.	10M	5	5
Q.6	**CASE STUDY**	10M	1	5
	The Indian smartphone market is one of the fastest-growing consumer electronics markets, driven by increasing internet penetration, rising disposable incomes, and rapid technological innovation. Consumers in this market display complex buying behaviour influenced by cultural, social, personal, and psychological factors.			

Ravi, a 28-year-old salaried professional from Hyderabad, planned to purchase a new smartphone with a budget of ₹25,000. His purchase decision was influenced by multiple factors. Initially, the need recognition arose due to frequent performance issues with his old phone. During the information search stage, Ravi relied heavily on online reviews, YouTube tech influencers, and recommendations from friends. Brand reputation and perceived quality played a crucial role in shaping his attitudes toward different smartphone brands.

Ravi evaluated alternatives based on key attributes such as camera quality, battery life, processor speed, and after-sales service. Promotional offers, exchange discounts, and easy EMI options further influenced his evaluation. Although he preferred a well-established brand, attractive pricing and positive word-of-mouth encouraged him to consider a newer brand offering similar features at a lower cost.

At the purchase stage, Ravi chose an online e-commerce platform due to convenience, competitive pricing, and fast delivery. Post-purchase, Ravi experienced satisfaction as the product met his expectations in terms of performance and value for money. He shared positive feedback on social media, influencing the purchase decisions of his peers. However, he remained cautious about long-term durability and service support, indicating the role of post-purchase evaluation in future buying behaviour.

This case highlights how consumer behaviour in the smartphone market is shaped by motivation, perception, learning, social influence, and marketing stimuli such as promotions and digital communication.

Questions:

1. What individual and social factors influenced Ravi's smartphone purchase decision?
2. How can smartphone marketers use post-purchase behaviour to strengthen brand loyalty?

END

Hall Ticket No: ☐☐☐☐☐☐☐☐☐☐   Question Paper Code: 24MBAP446

MADANAPALLE INSTITUTE OF TECHNOLOGY & SCIENCE, MADANAPALLE
(UGC-AUTONOMOUS)
MBA II Year I Semester (R24) Regular End Semester Examinations, December - 2025
DATA VISUALIZATION FOR MANAGERS

Time: 3Hrs

Max Marks: 60

> Attempt all the questions. All parts of the question must be answered in one place only.
> **In Q.no 1 to 5 answer either A or B only. Q.no 6 which is a case study is compulsory.**

Q.No	Question	Marks	CO	BL
Q.1(A)	Describe the process of building an interactive region-wise sales dashboard for the given dataset in Power BI. Include slicers, charts, and formatting options. **Dataset: SET 1 Q1A** RegionWise_Interactive_Dataset	10M	1	3
	OR			
Q.1(B)	Explain the role of the Fields pane and the Visualizations pane in Power BI. Discuss how these panes work together to create effective data visualizations.	10M	1	2
Q.2(A)	Compare trend inference for the given dataset using moving averages, smoothing, and forecasting tools in Power BI for flight price data. **dataset: SET I Q2A** Flight_Price_TimeSeries	10M	2	2
	OR			
Q.2(B)	Explain how a histogram and an ECDF complement each other in understanding data distribution, variability, and percentile information using a suitable example.	10M	2	2
Q.3(A)	Apply suitable data visualization techniques to design a multi-visual dashboard for a temperature time series with uncertainty bounds, explaining how long-term trends, short-term fluctuations, and uncertainty margins would be highlighted to support effective decision-making. **Dataset: SET 1 Q3A** Temperature_Uncertainty_TimeSeries	10M	3	3
	OR			
Q.3(B)	Apply both violin and box plots to compare multiple groups of data and explain which plot is more effective for identifying distributional patterns.	10M	3	3
Q.4(A)	Analyze the process of designing a multi-panel crime dashboard using small multiples for the given dataset by examining layout decisions, the use of redundant coding, color selection, and interactivity features. **Dataset: SET I Q4A** Crime_SmallMultiples_Dataset	10M	4	4
	OR			
Q.4(B)	What is *redundant coding* and *small multiples?* Explain their usefulness in multi-panel figure design.	10M	4	2
Q.5(A)	Examine the step-by-step process of creating a COVID-19 dashboard in Power BI for the given dataset by analyzing how key metrics such as new cases, deaths, recoveries, and testing rates are selected, modeled, visualized, and interpreted. **Dataset: SET I Q5A** COVID19_PowerBI_Detailed_Dataset	10M	5	4
	OR			

Q.5(B)	Analyze the concept of data storytelling by defining it and explaining why it is essential for effective analytics and informed decision-making.	10M	5	4
Q.6	**CASE STUDY**	10M	3	5

As a hospital administrator, evaluate seasonal disease severity across departments using proportional visualizations for the given dataset. Identify the months with the highest patient load and critically assess the need for changes in resource allocation, proposing suitable improvements.

Dataset: SET 1 Q6_Healthcare_Diseases

END

Hall Ticket No: [ ][ ][ ][ ][ ][ ][ ][ ][ ][ ]   Question Paper Code: 24MBAP446

MADANAPALLE INSTITUTE OF TECHNOLOGY & SCIENCE, MADANAPALLE
(UGC-AUTONOMOUS)
MBA II Year I Semester (R24) Regular End Semester Examinations, December - 2025
DATA VISUALIZATION FOR MANAGERS

Time: 3Hrs   Max Marks: 60

> Attempt all the questions. All parts of the question must be answered in one place only.
> **In Q.no 1 to 5 answer either A or B only. Q.no 6 which is a case study is compulsory.**

Q.No	Question	Marks	CO	BL
Q.1(A)	Explain the complete procedure for creating a simple bar chart for the given dataset in Power BI using a sales forecast dataset. Include data import, field mapping, and formatting steps. **Dataset: SET II Q1A** SalesForecast_120	10M	1	3
	OR			
Q.1(B)	Explain how Power Query Editor and Data View are used at different stages of Power BI report development.	10M	1	2
Q.2(A)	Describe how to create a histogram for the given dataset in Power BI for customer spending patterns using custom bins. Include data preparation and choice of visuals. **Dataset: SET II Q2A** Customer_Spending_Histogram	10M	2	3
	OR			
Q.2(B)	Discuss the concept of a Q–Q plot and analyze its role in assessing whether a dataset follows a normal distribution.	10M	2	2
Q.3(A)	Apply appropriate analytical steps to design a workflow that compares daily temperature distributions across regions and identifies anomalies using distribution-based visualizations for the given dataset. **Dataset: SET II Q3A** Daily_Temperature_By_Region	10M	3	3
	OR			
Q.3(B)	Describe how density plots help in understanding data distribution patterns. What are the common techniques used to visualize proportions in a dataset?	10M	3	3
Q.4(A)	Analyze how poor visual encoding in Power BI can mislead users, and discuss how the use of proportional links, redundant coding, and appropriate color scales helps prevent misinterpretation in a crime prediction dashboard for the given dataset. **Dataset: SET II Q4A** Crime_Prediction_Encoding_Dataset	10M	4	4
	OR			
Q.4(B)	Examine how multi-panel figures facilitate the comparison of similar patterns across categories and explain their role in improving analytical clarity and pattern recognition.	10M	4	3
Q.5(A)	Analyze how a Power BI dashboard can be designed to study COVID-19 trends across states for the given dataset, explaining the use of slicers, KPI cards, maps, and time-series charts to support comparative analysis and decision-making. **Dataset: SET II Q5A** COVID19_State_Trends	10M	5	4
	OR			

Q.5(B)	Explain the role of color and layout in improving storytelling through visualizations and describe how choosing the right chart type strengthens the message in data storytelling.	10M	5	3
Q.6	**CASE STUDY**	10M	2	4
	As an airline operations manager, evaluate flight delays and on-time performance across multiple airports for the given dataset by analyzing time-series trends, uncertainty bands, and interactive filters in a dashboard. Identify key operational bottlenecks and justify the managerial decisions you would make to improve punctuality.			

Dataset: SET II Q6_Flight_Delay_Performance
END

MADANAPALLE INSTITUTE OF TECHNOLOGY & SCIENCE, MADANAPALLE
(UGC-AUTONOMOUS)

MBA II Year I Semester (R24) Regular End Semester Examinations, December - 2025
CORPORATE TAX MANAGEMENT

Time: 3Hrs   Max Marks: 60

> Attempt all the questions. All parts of the question must be answered in one place only.
> **In Q.no 1 to 5 answer either A or B only. Q.no 6 which is a case study is compulsory.**

Q.No	Question	Marks	CO	BL
Q.1(A)	The following information is extracted from the books of ABC Pvt. Ltd. for the financial year 2024–25. The company earned the following incomes: 1. Income received from business operations: ₹ 8,20,000 2. Dividend received ₹ 3,10,000 from Delta Ltd., located in Pune 3. Dividend received from Thailand: ₹ 4,20,000 4. Agricultural income received from Myanmar: ₹ 4,00,000 5. Interest received ₹ 2,80,000 on debentures issued by an Indian company 6. Profit on sale of property situated in Italy: ₹ 5,00,000 (40% received in India) 7. Long-term capital gain from sale of listed shares in India: ₹ 7,50,000 8. Profit on sale of old machinery in Chennai: ₹ 2,20,000 9. Short-term capital gain from sale of XYZ Ltd. shares (company situated in Chennai): ₹ 3,10,000 Compute Taxable Income and Tax Liability for the Assessment Year **2025–26** under the following cases: • **Case 1:** If ABC Pvt. Ltd. is a **Resident Company** • **Case 2:** If ABC Pvt. Ltd. is a **Non-resident Company** Here tax rate for Indian companies is 25% and the foreign company tax rate is 30%. Surcharge is 7% and Health and Education Cess 4%	10M	1	5

OR

Q.No	Question	Marks	CO	BL
Q.1(B)	i. Discuss the concepts of "Assessment Year" and "Previous Year" with an illustration.	5M	1	2
	ii. Elaborate the Residential Status of the Company.	5M	1	2

Q.2(A) **The following Profit & Loss account belongs to Sonata Company Limited. At the end of 31ˢᵗ March,2025**   10M   2   5

Dr   Cr

Particulars	Amount	Particulars	Amount
To Opening stock	1,20,000	By closing stock	2,80,000
To Trade expenses	2,50,000	By Sales	20,50,000
To Salaries	3,70,000	By Income from house	
To Repairs & Maintains	2,80,000	property	7,50,000
To Provision for Bad		By Dividend	2,50,000
Debts	1,80,000	By Interest from postal	1,80,000
To Donations	4,50,000	certificates	
To Rent	2,00,000		
To Purchase of computers			
To Depreciation on P&M, L&B	6,00,000		
To Legal Expenses	1,50,000		
To RPF Contribution	2,00,000		
To URPF Contribution	1,80,000		
	1,00,000		
To Net Profit			
	4,30,000		
	35,10,000		**35,10,000**

Additional Information:
1. Opening stock overvalued by ₹70,000
2. In salaries 10% Related to Personal Staff
3. In Repairs & Maintains ₹ 60000 Related to finance director house
4. In donations, ₹ 1,20,000 is not approved by the income tax commissioner
5. Legal expenses amounting to ₹40,000 were incurred in connection with the personal issues of the HR Director.
6. Bad debts of ₹ 15,00,00 are approved by the income tax commissioner
7. Depreciation on computers 10%

You are required to compute the taxable income from the Sonata company limited for the Assessment year 2025-2026.

OR

Q.2(B) (i) Explain the Various Sources of Income to the Corporate Assessee.   5M   2   2
(ii) Illustrate between short-term capital gains and long-term capital gains with suitable examples relevant to companies   5M   2   2

Q.3(A) The following data were extracted from **Storm Global Ltd.**   10M   3   5
1. Income from Non-Speculative Businesses
   - Profit from Automobile Division – ₹ 10,40,000
   - Profit from Pharma Division – ₹ 4,25,000
   - Loss from IT Division – ₹ (5,20,000)
   - Profit from Textile Division – ₹ 2,75,000
2. Income from Capital Assets
   - Short-Term Capital Gains – ₹ (2,50,000)

- Short-Term Capital Losses – ₹ 2,10,000
- Long-Term Capital Gains – ₹ 5,20,000
- Long-Term Capital Losses – ₹ (4,80,000)

3. Income from Other Sources
- Interest on Debentures – ₹ 2,40,000
- Winnings from Lottery – ₹ 95,000
- Income from Maintenance of Race Horses – ₹ (1,35,000)

4. Income from Speculation Business
- Profit – ₹ 1,25,000

Brought Forward Losses (AY 2024–25)
- Loss from Pharma Division – ₹ 1,10,000
- Long-Term Capital Loss – ₹ 30,000

Additional Information
- Donation to PM CARES Fund – ₹ 2,00,000
- Donation to Recognised Political Party – ₹ 1,50,000

You are Required to compute the Gross Total Income and **Total Taxable Income and Tax Liability (Tax Rate 30% Health and Education cess 4%)** of Sunrise Global Ltd. for the **Assessment Year 2025–26** under the provisions of the Income-tax Act, 1961.

OR

Q.3(B)	(i) Examine the provisions relating to carry forward and set off of business losses under the Income Tax Act.	5M	4	2
	i. Discuss briefly on the provisions of Section 80G relating to donations made by companies.	5M	4	2
Q.4(A)	Describe about the Methods of Tax avoidance.	10M	4	2
	OR			
Q.4(B)	i. Discuss the Objectives of the Tax Planning	5M	4	2
	ii. Explain the Types of Tax Planning	5M	4	2
Q.5(A)	Elaborate the Corporate Tax Planning in respect of Export Promotion.	10M	5	2
	OR			
Q.5(B)	i. Discuss the Corporate Tax planning in respect of foreign collaborations.	5M	5	2
	ii. Highlight tax planning in respect of - Capital Gains Investments.	5M	5	2
Q.6	**Case Study**	10M	3	5

Mr. Satish, an entrepreneur, owned a residential building consisting of Ground plus three floors. Over the years, he expanded the property by constructing additional floors at different times. On 15th February 2025, he sold the entire residential building for ₹2,25,00,000. For this transaction, he paid brokerage charges at 1% of the sale value. The construction history of the property is important for tax computation: the ground floor was built in 2012-13 at a cost of ₹25,00,000, the first and second floors were added in 2016-17 at a cost of ₹40,00,000, and the third floor was constructed in 2021-22 at a cost of ₹30,00,000. Soon after the sale, on 20th March 2025, Mr. Satish reinvested in a new residential house property in Hyderabad worth ₹1,10,00,000. As per the provisions of the Income Tax Act, the sale proceeds, indexed cost of acquisition, and reinvestment must be carefully analyzed to determine the capital gains. The case requires computation of long-term capital gains, application of exemptions under relevant sections, and calculation of the final taxable Capital gains for Assessment Year 2025-26.

END

MADANAPALLE INSTITUTE OF TECHNOLOGY & SCIENCE, MADANAPALLE
(UGC-AUTONOMOUS)

MBA II Year I Semester (R24) Regular End Semester Examinations, December - 2025
HUMAN RESOURCE PLANNING

Time: 3Hrs   Max Marks: 60

> Attempt all the questions. All parts of the question must be answered in one place only.
> **In Q.no 1 to 5 answer either A or B only. Q.no 6 which is a case study is compulsory.**

Q.No	Question	Marks	CO	BL
Q.1(A)	Discuss in detail various approaches to HRP and justify which approach is best from your point of view?	10M	1	2
	OR			
Q.1(B)	(i) Explain the evolution of HRP. (ii) Explain the relationship between HRP and organizational strategy.	5M 5M	1	2
Q.2(A)	Compare quantitative and qualitative analysis of forecasting with a suitable example?	10M	2	2
	OR			
Q.2(B)	(i) Explain the factors affecting human resource demand forecasting (ii) Discuss how job analysis contributes to HR demand estimation.	5M 5M	2	2
Q.3(A)	Analyze the need of forecasting HR supply in the organization and explain the source of Human resource supply?	10M	3	4
	OR			
Q.3(B)	Explain competency mapping procedure with suit examples?	10M	3	2
Q.4(A)	VRS is effective method of managing HR surplus, Justify?	10M	4	2
	OR			
Q.4(B)	(i) Explain the importance of interview skills in selection. (ii) Explain workforce redeployment in managing surplus.	5M 5M	4	2
Q.5(A)	Analyze the difference among HR Auditing and HR accounting?	10M	5	4
	OR			
Q.5(B)	(i) Discuss what implication human resource on organization perspective? (ii) Discuss the barriers that affect effective HRP.	5M 5M	5 5	2 2
Q.6	**CASE STUDY**	10M	4	2

Inside Rails' is an organization with 15,000 employees scattered all over India in their seven branches. To provide for future manpower needs of the enterprise, in terms of sales, number, i.e., to provide the right number of employees with the right talents and skills at right time to perform right activities to achieve the set objectives and to fulfill the corporate purpose, manpower needs used to be calculated initially at the corporate office itself. For the post of Chief Draftsman in the graded pay structure of Rs. 2000-3200 plus perks, taking into consideration the needs of the entire organization with its various branches, the manpower needs were to be assessed. While assessing the manpower needs the following information are generally collected:

- Details of previous selections, the availability of manpower on hand, Actual sanctions, Present holdings, Vacancies.

- Anticipated vacancies for the next one year
  (a) due to normal wastage, (b) due to diversification

(c) due to unforeseen circumstances

- Surplus, anticipated from other divisions of the organization
- Any other special considerations.

An addition of 20 per cent of the net vacancies arrived at is generally made, to arrive at the total requirement. While working out the requirements for this category, which is at the highest supervisory level and is the feeder category for managerial promotions, the anticipated vacancies on account of expected promotions are also taken. 20 percent of the total vacancies arrived at are filled up by open market recruitment with graduate engineers while 80 per cent is by promotion of diploma holders. Those who are recruited directly from open market are given training for one year and then only posted to the working posts. Though they are called trainees, they are counted against working posts since their absorption is certain.

The corporate office processed a requirement profile for the years 1990 and I99L with the following information collected from various sources. The following particulars were available

- Number available on hand for promotion 13
- Number of posts on hand – 22
- Number on rolls - 20
- Anticipated requirements to be retirement, wastages, etc. 6
- Total requirement – 7

Action was initiated and the process was carried out till the time of fixing a date for selection and interviews. It was, however, seen one day prior to the date of interview, by the Chief of Personnel when some 'who had come for interview paid a courtesy call on the Chief and when he called for the papers since he did not know about the selector, that the actual requirement would be considerably reduced. It was also seen that if the process was carried out and if seven persons were selected this would create problems and discontent amongst the staff since at least the last few out of the seven would not fit in. The Chief of Personnel was perplexed.

(a) How and why has this situation arisen?

(b) Was there anything wrong in the system?

(c) Do you suggest any improvement?

END

MADANAPALLE INSTITUTE OF TECHNOLOGY & SCIENCE, MADANAPALLE
(UGC-AUTONOMOUS)
MBA II Year I Semester (R24) Regular End Semester Examinations, December - 2025
ADVERTISEMENT AND SALES PROMOTION MANAGEMENT

Time: 3Hrs

Max Marks: 60

Attempt all the questions. All parts of the question must be answered in one place only.
In Q.no 1 to 5 answer either A or B only. Q.no 6 which is a case study is compulsory.

Q.No	Question	Marks	CO	BL
Q.1(A)	Define brand positioning and explain various brand positioning strategies	10M	1	2
	OR			
Q.1(B)	i. Explain any five advertising appeals along with suitable examples	5M	1	2
	ii. What is integrated marketing communication?	5M	1	2
Q.2(A)	Discuss the stages involved in creating an effective advertising copy for a mobile brand	10M	2	3
	OR			
Q.2(B)	i. Enumerate the advantages and disadvantage of Radio Media?	5M	2	3
	ii. Briefly explain about ad copy testing	5M	2	2
Q.3(A)	Evaluate the various ways of setting advertising goals and objectives?	10M	3	5
	OR			
Q.3(B)	i. "There is a growing need of online advertising in India", Comment on the Statement?	5M	3	4
	ii. Discuss the objectives of media planning	5M	3	2
Q.4(A)	Assess your understanding on Two-wheeler Advertising? Illustrate in detail with suitable examples?	10M	4	4
	OR			
Q.4(B)	i. Classify the various advertisement copies with suitable examples	5M	4	4
	ii. Explain the significance of advertising agencies.	5M	4	2
Q.5(A)	Discuss in detail the nature and importance of Sales promotion.	10M	5	2
	OR			
Q.5(B)	i. Enumerate ASCI guidelines related to advertising	5M	5	2
	ii. Describe any four sales promotional tools	5M	5	3
Q.6	In recent years, marketers have increasingly partnered with small and specialist creative agencies, popularly known as creative boutiques or hotshops, to augment or sometimes replace traditional full-service advertising agencies. Campaigns such as "Spark the Rise" by Strawberry Frog for Mahindra & Mahindra and Scarecrow's work for Danone and Nestlé highlight how impactful brand communication can be delivered by smaller, independent agencies founded by professionals who previously worked with large agencies. The success of boutique agencies like Taproot India and Creative land Asia (CLA) has encouraged major brands to collaborate with multiple creative partners, creating new opportunities for smaller agencies to handle prestigious accounts. For example, CLA successfully relaunched Cinthol, a legacy brand of the Godrej Group, and executed an integrated multi-platform campaign for Audi India, covering print, television, outdoor, digital, and social media.	10M	4	5

Similarly, Law & Kenneth managed the rebranding of Hero MotoCorp following the conclusion of its joint venture with Honda.

Experts suggest that this shift towards boutique agencies is a long-term trend, driven by the growing demand for project-based mandates, faster execution, flexibility, and innovative, clutter-breaking ideas in an increasingly crowded marketing environment. As consumer preferences and media landscapes evolve rapidly, even long-established brands must continuously refresh their communication strategies. Nevertheless, the long-term sustainability of both boutique and large agencies depends on their ability to deliver measurable results and business impact, with large agencies retaining an advantage through integrated service offerings if they adapt creatively.

Questions

1. Do the growing popularity and success of creative boutique agencies pose a strategic threat to large full-service advertising agencies?
2. Are creative boutique agencies valued only for clutter-breaking ideas, or do they play a broader role in modern brand building?

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END

</div>

Hall Ticket No: ☐☐☐☐☐☐☐☐☐☐

Question Paper Code: 24MBAP448

MADANAPALLE INSTITUTE OF TECHNOLOGY & SCIENCE, MADANAPALLE
(UGC-AUTONOMOUS)

MBA II Year I Semester (R24) Regular End Semester Examinations, December - 2025

DATA SCIENCE USING PYTHON

Time: 3Hrs

Max Marks: 60

> Attempt all the questions. All parts of the question must be answered in one place only.
> **In Q.no 1 to 5 answer either A or B only. Q.no 6 which is a case study is compulsory.**

Q. No	Question	Marks	CO	BL
Q.1(A)	Describe the Data Science life cycle in detail. Explain the role and significance of each stage in converting raw data into actionable business insights.	10M	1	2
	OR			
Q.1(B)	Explain the fundamental Python data types, variables, and operators. Discuss how these elements support data handling and analysis in business analytics.	10 M	1	3
Q.2(A)	**Dataset:** Monthly expenses (₹ thousands) of a startup across 3 categories for 6 months: Marketing: [50, 60, 55, 65, 70, 75] Operations: [40, 42, 45, 48, 50, 55] HR: [30, 32, 34, 36, 38, 40] **Questions:** i. Create a 2D NumPy array from the dataset. ii. Calculate monthly total expenses. iii. Identify the category with highest average cost.	3M 4M 3M	2 2 2	5 4 4
	OR			
Q.2(B)	**Dataset:** Customer satisfaction scores (out of 100): [45, 78, 82, 60, 90, 55, 88, 72, 40, 95] **Questions:** i. Use Boolean indexing to identify customers with scores above 75. ii. Explain how Boolean indexing is useful in customer segmentation.	5 M 5M	2 2	4 4
Q.3(A)	Using the dataset:			

Q.3(A) Using the dataset:

Month	Revenue (₹ Lakhs)			
Jan	25			
Feb	30			
Mar	28	4M	3	4
Apr	35	3M	3	4
May	40	3M	3	4

i. Compute mean, median, and standard deviation.
ii. Identify the month with the highest revenue.
iii. Interpret the results from a business growth perspective.

OR

Q.3(B) Consider the employee dataset:

Emp_ID	Name	Department	Salary
101	Ramesh	Finance	55000
102	Suresh	HR	48000
103	Mahesh	IT	65000
104	Geeta	Finance	60000

5 M 3 3
5M 3 3

i. Create a Pandas DataFrame.
ii. Add a new column Bonus equal to 10% of Salary.

Q.4(A) Using Pandas library read the content from the dataset "Pandas Data Cleaning 1.xlsx", store it in a dataframe and display the dataframe. Identify and display any null values using "isnull" function.

10M 4 2

OR

Q.4(B) Given the dataset:

Order_ID	Product	Region	Sales
201	Laptop	South	50000
202	Mobile	north	20000
202	Mobile	north	20000
203	Tablet	SOUTH	30000
204	Laptop	North	52000

5 M 4 3
5M 4 3

i. Write a pandas program to:

- Remove duplicate rows
- Standardize Region values to title case
- Replace "north" and "SOUTH" with "North" and "South"

ii. Display the cleaned dataset.

Q.5(A) Critically examine how misleading visualizations (incorrect scaling, inappropriate plot choice, and selective data) in Pandas can lead to poor managerial decisions.

10M 5 5

Illustrate your answer using examples from:

- Salary data
- Enrollment or placement data

Suggest best practices for ethical and effective data visualization.

OR

Q.5(B) Compare Histogram and Density plots in pandas. Your answer should include:

10 M 5 3

- Conceptual difference between the two
- Advantages and limitations of each
- Situations where density plots are preferred over histograms in business analytics

Q.6 **CASE STUDY**

Using Pandas library read the content from the dataset "Pandas Data Cleaning 3.xlsx", store it in a dataframe and display the dataframe. Change all the String values in the dataframe into uppercase using appropriate function.

10M 3 4

END

Hall Ticket No: ☐☐☐☐☐☐☐☐☐☐   Question Paper Code: 24MBAP448

MADANAPALLE INSTITUTE OF TECHNOLOGY & SCIENCE, MADANAPALLE
(UGC-AUTONOMOUS)
MBA II Year I Semester (R24) Regular End Semester Examinations, December - 2025
DATA SCIENCE USING PYTHON

Time: 3Hrs   Max Marks: 60

> Attempt all the questions. All parts of the question must be answered in one place only.
> **In Q.no 1 to 5 answer either A or B only. Q.no 6 which is a case study is compulsory.**

Q. No	Question	Marks	CO	BL
Q.1(A)	Explain the concept of Data Science and discuss its importance in managerial decision-making. Illustrate your answer with suitable business examples from marketing, finance, or operations.	10M	1	2
	OR			
Q.1(B)	Explain the use of conditional statements and loops in Python. Demonstrate how this control structures can be applied to solve a simple business-related data problem.	10 M	1	3
Q.2(A)	**Dataset:** Quarterly profit (₹ lakhs) of 4 companies over 6 years (24 values). [20, 22, 25, 27, 30, 32, 18, 19, 21, 24, 26, 29, 15, 17, 20, 22, 24, 28, 10, 12, 15, 18, 20, 23] **Question:** i. Reshape the array into a 4 × 6 matrix. ii. Extract profits of the last two years for all companies.	5M 5M	2 2	3 3
	OR			
Q.2(B)	Monthly sales (in ₹ lakhs) of 3 products over 4 quarters: Product A: 12, 15, 14, 18 Product B: 10, 11, 13, 16 Product C: 8, 9, 11, 14 **Questions:** i. Create a NumPy ndarray using the above data. ii. Convert the array data type to float64 and explain why data types are important in business analytics.	5M 5M	2 2	2 2
Q.3(A)	Given the following sales data for five products: 	Product	Sales (₹ in thousands)
---	---
A	120
B	150
C	90
D	200
E	170 | i. Create a Pandas Series using the above data. ii. Display the index and values separately. iii. Update the sales value of Product C to 110.	4M 3M 3M	3 3 3	3 2 2
	OR			
Q.3(B)	Using Pandas library read the content from the dataset "ExcelReadWrite.xlsx", store it in a dataframe and display the dataframe. Display the row with index '1' from the dataframe using iloc function. Analyse what happens if you try to display a row with index 'B' using iloc function.	10M	3	4

Q.4(A)	Write a pandas program to remove duplicates and replace values. Dataset: **employee_data.csv**	2M	4	2
		3M	4	3
		3M	4	3
		2M	4	3

Emp_ID	Department	Salary
201	HR	40000
202	IT	60000
202	IT	60000
203	Finance	50000

i. Detect and remove duplicate records
ii. Replace Department name "HR" with "Human Resources"
iii. Increase salary by 10% for IT employees
iv. Display final DataFrame

OR

| Q.4(B) | Differentiate between various methods of handling missing data in pandas. Explain the use of isnull(), dropna(), and fillna() with suitable examples. | 10M | 4 | 3 |

| Q.5(A) | Read the content from excel sheet "PlotData.xlsx" using pandas library and store it in a dataframe. Make a histogram plot with Column 'A' using Matplotlib library. | 10M | 5 | 4 |

OR

| Q.5(B) | Explain the different types of plots supported by the Pandas plotting API (Line plot, Bar plot, Histogram, Density plot, and Scatter plot).
For each plot type:
• Describe its purpose
• Identify the type of business data it best represents
• Give one managerial decision where it can be applied | 10M | 5 | 2 |

| Q.6 | **CASE STUDY**
Using Pandas library read the content from the dataset "Pandas Data Cleaning 3.xlsx", store it in a dataframe and display the dataframe. Change all the String values in the dataframe into lowercase using appropriate function. | 10M | 4 | 4 |

END

MADANAPALLE INSTITUTE OF TECHNOLOGY & SCIENCE, MADANAPALLE
(UGC-AUTONOMOUS)
MBA II Year I Semester (R24) Regular End Semester Examinations, December - 2025
INTERNATIONAL FINANCIAL MANAGEMENT

Time: 3Hrs

Max Marks: 60

> Attempt all the questions. All parts of the question must be answered in one place only.
> **In Q.no 1 to 5 answer either A or B only. Q.no 6 which is a case study is compulsory.**

Q.No	Question	Marks	CO	BL
Q.1(A)	(i) Explain the structure and components of the Balance of Payments (BOP) (ii) What is the International Fisher Effect?	10M	1	2
	OR			
Q.1(B)	Critically analyze the Purchasing Power Parity (PPP) theory and its limitations.	10M	1	4
Q.2(A)	Explain the methods of Foreign Exchange Rate Determination.	10M	2	2
	OR			
Q.2(B)	(i) What are Foreign Currency Options? (ii) Explain the International Financial Environment affecting a Multinational Firm.	10M	2	2
Q.3(A)	Discuss the recent trends regarding the growing strength of the Indian Rupee and other currencies in the global market.	10M	3	2
	OR			
Q.3(B)	Discuss the Euro Currency Market and its significance to International Financial Management.	10M	3	2
Q.4(A)	Discuss the functions and objectives of the International Monetary Fund (IMF) in the global economy.	10M	4	2
	OR			
Q.4(B)	Answer the following: (i) Discuss the importance of Cash Management in a multinational context. (ii) What is the International Development Association?	10M	4	2
Q.5(A)	Compare and contrast Foreign Direct Investment (FDI) and Foreign Institutional Investment (FII).	10M	5	4
	OR			
Q.5(B)	"Incorporating risk in investment decisions is crucial for MNCs." Validate this statement by explaining the relevant approaches.	10M	5	4
Q.6	**CASE STUDY** Calculate the value of the financial subsidy offered by the Indonesian government to an Indian MNC. The symbol for the Indonesian rupiah is IDR. The face value of the loan is IDR 1 million, the market rate of borrowing in Indonesia is 15% per annum, concessional interest rate offered on the loan is 10% per annum, market rate of borrowing in India is 16% per annum, tenor of the loan is 10 years, and the principal is repayable in 10 equal instalments. The current exchange rate is INR 3/IDR.	10M	5	4

END

MADANAPALLE INSTITUTE OF TECHNOLOGY & SCIENCE, MADANAPALLE
(UGC-AUTONOMOUS)
MBA II Year I Semester (R24) Regular End Semester Examinations, December – 2025
PERFORMANCE AND REWARD MANAGEMENT

Time: 3Hrs   Max Marks: 60

Attempt all the questions. All parts of the question must be answered in one place only.
In Q.no 1 to 5 answer either A or B only. Q.no 6 which is a case study is compulsory.

Q. No	Question	Marks	CO	BL
Q.1(A)	Clarify the linkage between performance management and training.	10M	1	2
	OR			
Q.1(B)	Define performance management and explain its importance in modern organizations.	10M	1	2
Q.2(A)	Explain the principles of performance management.	10M	2	2
	OR			
Q.2(B)	Describe any three traditional methods of performance appraisal.	10M	2	2
Q.3(A)	Describe the wage structure, wage fixation, and wage payment.	10M	3	2
	OR			
Q.3(B)	Define compensation and explain its key components.	10M	3	2
Q.4(A)	Elucidate executive compensation plans and packages.	10M	4	2
	OR			
Q.4(B)	Discuss the role of recognition systems in motivating employees.	10M	4	3
Q.5(A)	Describe the steps involved in conducting a salary survey and interp: results.	10M	5	2
	OR			
Q.5(B)	Critically examine how pay structures can support strategic HR objectives.	10M	5	4
Q.6	**CASE STUDY**	10M	3	4

CASE STUDY

BrightWave Ltd. noticed that its sales team consistently missed quarterly sales targets. Several high-performing individuals were achieving their goals, but many others were underperforming. The HR team found that targets were the same for everyone, irrespective of experience or territory difficulty.

Questions:
1. How can the organization improve performance management?
2. Suggest an effective reward strategy.

END

MADANAPALLE INSTITUTE OF TECHNOLOGY & SCIENCE, MADANAPALLE
(UGC-AUTONOMOUS)

MBA II Year I Semester (R24) Regular End Semester Examinations, December - 2025
LOGISTICS AND SUPPLY CHAIN MANAGEMENT

Time: 3Hrs   Max Marks: 60

Attempt all the questions. All parts of the question must be answered in one place only.
In Q.no 1 to 5 answer either A or B only. Q.no 6 which is a case study is compulsory.

Q.No	Question	Marks	CO	BL
Q.1(A)	Explain the meaning, objectives, and importance of supply chain management	10M	1	2
	OR			
Q.1(B)	(i). Briefly explain the concept of digital twins.	5M	1	2
	(ii). Discuss the concept of digital supply chain.	5M	1	2
Q.2(A)	Discuss the challenges of omnichannel distribution strategies.	10M	2	3
	OR			
Q.2(B)	(i). Discuss about digital distribution networks.	5M	2	2
	(ii). explain the impact of uncertainty on distribution.	5M	2	2
Q.3(A)	Explain the importance of demand forecasting in supply chain management.	10M	3	3
	OR			
Q.3(B)	Explain qualitative and quantitative forecasting methods.	10M	3	3
Q.4(A)	Discuss economies of scale and cycle inventory.	10M	3	3
	OR			
Q.4(B)	(i). How do you conduct real time inventory tracking? Explain	5M	4	2
	(ii). Discuss the role of IT in inventory tracking.	5M	4	2
Q.5(A)	Explain the role of transportation in supply chain performance.	10M	5	3
	OR			
Q.5(B)	(i). Discuss the role of sourcing in supply chains.	5M	5	2
	(ii). Explain third and fourth party Logistics in Supply Chain.	5M	5	2
Q.6	**CASE STUDY**	10M	3	5

FreshTaste Foods manufactures and distributes ready-to-eat and frozen meals to supermarkets, quick-service restaurants, and online grocery platforms. Demand for its products is influenced by seasonality, festivals, promotional campaigns, and changing consumer lifestyles. Currently, the company uses historical sales data and simple moving averages for forecasting.

This approach has led to frequent forecasting errors, resulting in stockouts during peak demand periods and excess inventory during off-season periods. These inefficiencies have increased wastage, storage costs, and lost sales opportunities. Retail partners have also expressed dissatisfaction with inconsistent product availability.

Recognizing these challenges, FreshTaste's management is exploring advanced analytics, demand sensing, collaborative forecasting with retailers, and scenario planning to improve forecasting accuracy and reduce demand uncertainty.

Questions:
1. Analyze the limitations of FreshTaste Foods' current demand forecasting approach.
2. Explain how advanced forecasting methods, IT tools, and collaboration can improve forecasting accuracy.

END

Hall Ticket No: ☐☐☐☐☐☐☐☐☐☐ Question Paper Code: 24MBAP450

MADANAPALLE INSTITUTE OF TECHNOLOGY & SCIENCE, MADANAPALLE
(UGC-AUTONOMOUS)

MBA II Year I Semester (R24) Regular End Semester Examinations, December - 2025

PREDICTIVE ANALYTICS AND MODELING

Time: 3Hrs

Max Marks: 60

> Attempt all the questions. All parts of the question must be answered in one place only.
> **In Q.no 1 to 5 answer either A or B only. Q.no 6 which is a case study is compulsory.**

Q.No	Question	Marks	CO	BL
Q.1(A)	Analyze and elucidate the differences between predictive analytics and business analytics by comparing their scope, purpose, and methodological approaches.	10M	1	4
	OR			
Q.1(B)	Analyze the differences among prescriptive analytics, predictive analytics, and predictive modelling by examining their purposes, methodologies, and outcomes. Illustrate your analysis with suitable examples.	10M	1	4
Q.2(A)	Explain the major threats to internal validity and external validity and illustrate each threat with suitable examples.	10M	2	3
	OR			
Q.2(B)	Explain the concept of reliability and illustrate the factors that influence reliability with suitable examples.	10M	2	3
Q.3(A)	Explain Factor Analysis. Explain it's purpose with the help of an example.	10M	3	2
	OR			
Q.3(B)	Examine the advantages of multivariate strategies over univariate and bivariate approaches in addressing complex business research questions. State your arguments using an example.	10M	3	3
Q.4(A)	Examine the distinction between heteroscedasticity and homoscedasticity and analyze their implications for regression model validity.	10M	4	4
	OR			
Q.4(B)	Elucidate outliers. Discuss the methods used to detect them and analyze the approaches available to resolve them.	10M	4	4
Q.5(A)	Explain the concept of an analytical stack and illustrate how analytics can be applied in banking to detect fraudulent transactions	10M	5	3
	OR			
Q.5(B)	Illustrate the components of trend, cyclical variation, and seasonality in a time-series dataset, explaining how each affects forecasting outcomes.	10M	5	4
Q.6	**CASE STUDY** Perform logistic regression on the college student placement dataset and evaluate the results to assess the extent to which the independent variables influence students' placement outcomes. Interpret the Nagelkerke's R-square value and justify which variables have a statistically significant influence on the placement outcome. Dataset: College Placement	10M	3	4

END

Hall Ticket No: ☐☐☐☐☐☐☐☐☐☐

Question Paper Code: 24MBAP450

MADANAPALLE INSTITUTE OF TECHNOLOGY & SCIENCE, MADANAPALLE
(UGC-AUTONOMOUS)
MBA II Year I Semester (R24) Regular End Semester Examinations, December - 2025
PREDICTIVE ANALYTICS AND MODELING

Time: 3Hrs

Max Marks: 60

> Attempt all the questions. All parts of the question must be answered in one place only.
> **In Q.no 1 to 5 answer either A or B only. Q.no 6 which is a case study is compulsory.**

Q.No	Question	Marks	CO	BL
Q.1(A)	Explain the concept of Predictive Analytics. Illustrate the steps involved in performing Predictive Analytics using Machine Learning, with the help of a suitable diagram.	10M	1	3
	OR			
Q.1(B)	Elucidate the Difference between predictive analytics and Business Analytics.	10M	1	2
Q.2(A)	Describe the concept of Sampling. differentiate between Population and Sample. illustrate and name the different types of sampling methods with the help of a diagram.	10M	2	3
	OR			
Q.2(B)	Explain the importance of maintaining a balance between internal validity and external validity. Describe the methods used to balance the internal and external validity.	10M	2	3
Q.3(A)	Analyze the theoretical differences between exploratory factor analysis (EFA) and confirmatory factor analysis (CFA), highlighting when each method should be used.	10M	3	3
	OR			
Q.3(B)	Analyze the conceptual and methodological differences among multiple regression, logistic regression, and hierarchical regression, and discuss when each method is most appropriate.	10M	3	4
Q.4(A)	Elucidate outliers. Discuss the methods used to detect them and analyze the approaches available to resolve them.	10M	4	2
	OR			
Q.4(B)	Analyze the interpretation of regression coefficients in a multiple regression model and discuss how multicollinearity can distort these interpretations.	10M	4	4
Q.5(A)	Examine the ARIMA model by analyzing how autoregressive, differencing, and moving average components combine to model various patterns in time-series data.	10M	5	3
	OR			
Q.5(B)	Analyze the role of deviance, the Wald test, and the Hosmer–Lemeshow test in assessing the goodness of fit of a logistic regression model.	10M	5	4
Q.6	**CASE STUDY**	10M	5	4

Perform Multinomial Logistic Regression for Product Choice Prediction
Dataset used: Retail_ProductChoice_Multinomial

END

MADANAPALLE INSTITUTE OF TECHNOLOGY & SCIENCE, MADANAPALLE
(UGC-AUTONOMOUS)
MBA II Year I Semester (R24) Regular End Semester Examinations, December - 2025
FINANCIAL INSTITUTIONS, MARKETS AND SERVICES

Time: 3Hrs

Max Marks: 60

Attempt all the questions. All parts of the question must be answered in one place only.
In Q.no 1 to 5 answer either A or B only. Q.no 6 which is a case study is compulsory.

Q.No	Question	Marks	CO	BL
Q.1(A)	Explain the elements of the financial system and discuss how a strong financial system contributes to economic development.	10M	1	2
	OR			
Q.1(B)	Explain the role of financial markets in the financial system. Discuss the major roles of IRDAI in the insurance sector.	10M	1	2
Q.2(A)	Discuss the differences between life insurance and general insurance, and evaluate their role in economic development.	10M	2	3
	OR			
Q.2(B)	Analyze the recent innovations in the banking sector and their impact on service delivery.	10M	2	3
Q.3(A)	Describe the structure of the Indian money market and explain its key components including call money market and government securities market.	10M	3	2
	OR			
Q.3(B)	Evaluate SEBI's role and effectiveness in investor protection and market regulation.	10M	3	4
Q.4(A)	Discuss the growth and structure of the venture capital and private equity market in India.	10M	4	2
	OR			
Q.4(B)	Explain consumer credit, factoring, and leasing in the financial system with their advantages. Analyze the role of housing finance institutions in India's economic development.	10M	4	4
Q.5(A)	Explain the functions of Merchant Banking in detail. How do bankers assist in corporate finance and capital market activities?	10M	5	3
	OR			
Q.5(B)	Describe stock broking services and explain the role of major stockbrokers in India. Evaluate the importance of credit rating agencies (CRISIL, CARE, ICRA) in the Indian financial system.	10M	5	4
Q.6	**CASE STUDY** A manufacturing company plans to expand operations. It engages a merchant banker for capital raising, obtains credit rating from CRISIL, uses portfolio management services, and utilizes depository services. Based on this scenario: (a) Identify and analyze major challenges in investment banking and issue management. (b) Critically evaluate how depository services ensure security. (c) Create a comprehensive action plan for successful capital raising.	10M	5	5

END

MADANAPALLE INSTITUTE OF TECHNOLOGY & SCIENCE, MADANAPALLE
(UGC-AUTONOMOUS)
MBA II Year I Semester (R24) Regular End Semester Examinations, December - 2025
ORGANIZATIONAL CHANGE AND DEVELOPMENT

Time: 3Hrs

Max Marks: 60

> Attempt all the questions. All parts of the question must be answered in one place only.
> **In Q.no 1 to 5 answer either A or B only. Q.no 6 which is a case study is compulsory.**

Q.No	Question	Marks	CO	BL
Q.1(A)	Analyze the 7S framework for the successful management of change	10M	1	3
	OR			
Q.1(B)	i. Explain why people resist change	5 M	1	3
	ii. List out various sources of managing resistance to change	5 M	1	4
Q.2(A)	Evaluate the Kotter's 8 steps model for managing the transaction.	10M	2	4
	OR			
Q.2(B)	i. Elucidate the role of change agents	5 M	2	5
	ii. How do external and internal change agents differ in their roles	5 M	2	3
Q.3(A)	Discuss the role of organization development in organizational improvement. What are its various limitations?	10M	3	3
	OR			
Q.3(B)	i. List the characteristics of organizational development	5 M	3	4
	ii. Explain assumptions and beliefs of organizational development	5 M	3	3
Q.4(A)	Evaluate how action research orientation helps to overcome organizational change.	10M	4	4
	OR			
Q.4(B)	i. Define system ramification along with the characters.	5 M	4	3
	ii. Explain OD process.	5 M	4	2
Q.5(A)	Discuss how behavior modeling simulation exercises helps in bringing in the organization	10M	4	3
	OR			
Q.5(B)	i. Explain the process of evaluating OD effectiveness.	5 M	5	4
	ii. Explain T-Groups. How do they help participants develop interpersonal competence and self-awareness?	5 M	5	4
Q.6	**CASE STUDY**	10M	2	5

CASE STUDY

Viswa Textiles Ltd., a mid-sized garment manufacturer, has operated for over 25 years using traditional production methods. Over the past five years, the company has faced declining productivity, increasing defect rates, and growing customer dissatisfaction. Market competitors have adopted automation, digital tracking, and lean production systems, putting Viswa at a clear disadvantage.

The Managing Director (MD) initiated an organizational change program focused on adopting an integrated digital manufacturing system. A diagnostic review using the **Six-Box Organizational Model** revealed gaps in reward structures, outdated technologies, and poor communication between operations and quality control

teams. The **7S Framework** assessment also showed misalignment between strategy, skills, and systems.

Although the MD emphasized the urgency of change, several employees resisted. Older workers feared job loss due to automation, supervisors were reluctant to learn new digital tools, and informal power networks tried to influence others to delay adoption. This resistance revealed strong cultural inertia and low trust in leadership.

To manage resistance, the MD implemented **Lewin's Three-Step Model**:

- **Unfreezing:** Conducting awareness sessions on market threats, job security assurances, and training programs.
- **Changing:** Gradually introducing digital systems, deploying cross-functional teams, and redesigning workflows.
- **Refreezing:** Establishing new performance metrics, recognizing early adopters, and integrating digital skills into job roles.

A **fishbone cause-and-effect analysis** was conducted to identify root causes of low productivity, highlighting issues in manpower, methods, machines, materials, and management style. Based on these insights, the company redesigned its production process.

Within a year, Viswa Textiles achieved a 20 percent improvement in operational efficiency, reduced defects, and regained several key customers. However, some pockets of resistance still persisted, requiring ongoing cultural reinforcement.

Questions:

1. Using any one change model (e.g., Lewin's Model, 7S Framework, or Six-Box Model), analyze why Viswa Textiles needed organizational change.

2. What were the main forces driving change and the major sources of resistance in the organization? How effectively were these addressed?

3. If you were the OD consultant, what additional strategies would recommend to strengthen long-term acceptance and refreezing organizational change?

END

MADANAPALLE INSTITUTE OF TECHNOLOGY & SCIENCE, MADANAPALLE
(UGC-AUTONOMOUS)

MBA II Year I Semester (R24) Regular End Semester Examinations, December - 2025

SALES AND DISTRIBUTION MANAGEMENT

Time: 3Hrs

Max Marks: 60

> Attempt all the questions. All parts of the question must be answered in one place only.
> **In Q.no 1 to 5 answer either A or B only. Q.no 6 which is a case study is compulsory.**

Q.No	Question	Marks	CO	BL
Q.1(A)	Illustrate how effective sales organization structure contributes to organizational success.	10M	1	3
	OR			
Q.1(B)	Compare different types of sales organizations with suitable examples.	10M	1	4
Q.2(A)	i) Discuss the role of sales budgets in planning and control of sales operations.	5M	2	2
	ii) Evaluate the importance of time and territory management in enhancing sales force productivity	5M	2	4
	OR			
Q.2(B)	Critically examine the effectiveness of sales displays in retailing.	10M	2	4
Q.3(A)	Explain how sales managers can assess and improve sales force performance.	10M	3	4
	OR			
Q.3(B)	Evaluate different salesmen compensation plans with suitable industry examples.	10M	3	5
Q.4(A)	Compare different types of channel structures with industry examples.	10M	4	4
	OR			
Q.4(B)	Discuss the challenges in channel member selection and retention.	10M	4	2
Q.5(A)	Critically examine the relevance of green channels in sustainable busi	10M	5	5
	OR			
Q.5(B)	Discuss the advantages and limitations of e-channels in sales distribu	10M	5	2
Q.6	**CASE STUDY**	10M	3	4

MedLife Pharmaceuticals' Struggle with Sales Force Performance

MedLife Pharmaceuticals, a mid-sized Indian pharma company, had been growing steadily with its line of generic medicines. Its sales force of 300 medical representatives (MRs) played a **critical role in influencing doctors' prescriptions and maintaining distributor relationships**.

Recently, the company faced performance issues:

- **Recruitment & Selection**: Many new MRs left within the first year, citing poor job-fit and unrealistic expectations.
- **Training Gaps**: Some recruits struggled to explain drug benefits effectively, leading to weak doctor engagement.

- **Compensation Issues**: MRs were paid a fixed salary with minimal performance-based incentives. Competitors offered attractive commission plans, luring away top performers.
- **Performance Evaluation**: Managers mainly tracked sales numbers but ignored qualitative factors like doctor visits, relationship building, and adherence to ethics.
- **Sales Expenses**: Travel and sample distribution costs were rising, and there was no proper control system.
- **Sales Audit**: The company had never conducted a structured audit to evaluate the effectiveness of sales strategies.

The newly appointed VP of Sales, Priya, was tasked with revamping **sales force management**. She needed to:

1. Redesign recruitment and selection to ensure better cultural fit.
2. Create a structured training program covering product knowledge, communication skills, and compliance with medical regulations.
3. Propose a **new compensation plan** that balanced fixed pay and incentives.
4. Develop a **fair and comprehensive performance evaluation system**.
5. Control sales expenses through effective monitoring.
6. Conduct a **sales audit** to align sales strategies with company goals.

The challenge was to balance **cost control, motivation, and ethical practices** in an industry where aggressive selling often created compliance risks.

Questions

i. What improvements can be made to Med Life's recruitment and selection of salespeople?
ii. What should be included in a comprehensive training program for medical representatives?
iii. Suggest an effective compensation plan for MedLife's sales force

END

Hall Ticket No:

Question Paper Code: 24MBAP451

MADANAPALLE INSTITUTE OF TECHNOLOGY & SCIENCE, MADANAPALLE
(UGC-AUTONOMOUS)

MBA II Year I Semester (R24) Regular End Semester Examinations, December - 2025

BIG DATA ANALYTICS

Time: 3Hrs

Max Marks: 60

Attempt all the questions. All parts of the question must be answered in one place only.
In Q.no 1 to 5 answer either A or B only. Q.no 6 which is a case study is compulsory.

Q.No	Question	Marks	CO	BL
Q.1(A)	i. With help of File widget Perform Association Rule Mining on zoo dataset for minimum confidence, support of 10%, 5% respectively using orange data mining.	5 M	1	3
	ii. With help of File widget Perform Frequent Items on zoo dataset for minimum support of 5% using orange data mining.	5 M	1	3
	OR			
Q.1(B)	Explain the characteristics of Big Data, commonly known as the 5 V's. Provide examples for each characteristic to illustrate their significance in Big Data applications.	10M	1	2
Q.2(A)	Analyze the difference between a Data Scientist and a Business Analyst.	10M	2	4
	OR			
Q.2(B)	i. With Jamovi, perform EDA on customer dataset - compute mean, median, variance for age, income columns.	5 M	2	3
	ii. Generate correlation matrix in Jamovi for all continuous variables.	5 M	2	3
Q.3(A)	Distinguish between RDBMS vs Hadoop.	10M	3	2
	OR			
Q.3(B)	i. How to set HADOOP_HOME and JAVA_HOME variables.	5 M	3	4
	ii. Describe start-dfs.sh and start-yarn.sh commands in Hadoop shell.	5 M	3	4
Q.4(A)	Evaluate the performance considerations and optimization strategies loading in large-scale databases	10M	4	2
	OR			
Q.4(B)	i. Create and delete documents in MongoDB using insert Many and delete Many commands.	5 M	4	3
	ii. Verify key spaces in Cassandra using DESCRIBE, create a table with name students.	5 M	4	3
Q.5(A)	How do NoSQL databases solve Big Data management challenges?	10M	5	3
	OR			
Q.5(B)	What is an Analytic Stack? Explain its components for Big Data applications with examples.	10M	5	2
Q.6	**CASE STUDY**	10M	4	4
	PepsiCo is a consumer-packaged goods company that relies on huge volumes of data for efficient supply chain management. The company is committed to ensuring it replenishes the retailers' shelves with			

appropriate volumes and types of products.

The company's clients provide reports that include their warehouse inventory and the POS inventory to the company, and this data is used to reconcile and forecast the production and shipment needs.

This way, the company ensures retailers have the right products, in the right volumes, and at the right time.

1. Design Data Analytics Life Cycle for PepsiCo's inventory reconciliation process.
2. Compare Hadoop HDFS vs NoSQL (Cassandra) for PepsiCo's high-velocity retailer streams.

END

Hall Ticket No: ☐☐☐☐☐☐☐☐☐☐   Question Paper Code: 24MBAP451

MADANAPALLE INSTITUTE OF TECHNOLOGY & SCIENCE, MADANAPALLE
(UGC-AUTONOMOUS)

MBA II Year I Semester (R24) Regular End Semester Examinations, December - 2025

BIG DATA ANALYTICS

Time: 3Hrs   Max Marks: 60

> Attempt all the questions. All parts of the question must be answered in one place only.
> **In Q.no 1 to 5 answer either A or B only. Q.no 6 which is a case study is compulsory.**

Q.No	Question	Marks	CO	BL
Q.1(A)	Explain the big data applications with suitable examples.	10M	1	2
	OR			
Q.1(B)	i. With help of File widget Perform Association Rule Mining on Titanic dataset using orange data mining.	5 M	1	3
	ii. With help of File widget Perform Frequent Items on Titanic dataset using orange data mining.	5 M	1	3
Q.2(A)	Elaborate the role of data scientist in handling Big data.	10M	2	2
	OR			
Q.2(B)	i. Explain linear regression setup in Jamovi with covariates and factors.	5 M	2	3
	ii. Perform EDA, Deliverable creation along with result interpretation in Jamovi output panel.	5 M	2	3
Q.3(A)	Discuss role of Data Node and Name Node in HDFS with relevant examples	10M	3	2
	OR			
Q.3(B)	i. Demonstrate starting Hadoop daemon processes.	5 M	3	3
	ii. Start YARN Resource Manager job monitoring in hadoop with help of Virtual Box	5 M		
Q.4(A)	Discuss the NoSQL data stores and their characteristic features	10M	4	2
	OR			
Q.4(B)	i. Perform MongoDB insertOne vs insertMany operations in MongoShell	5 M	4	3
	ii. Demonstrate Cassandra keyspace creation with SimpleStrategy	5 M	4	3
Q.5(A)	Explain different big data applications in detail with suitable examples	10M	5	2
	OR			
Q.5(B)	i. Perform Twitter sentiment analysis in Kaggle	5 M	5	2
	ii. Demonstrate credit card fraud detection predictive model in kaggle	5 M	5	2
Q.6	**CASE STUDY**	10M	4	4

Q.6 CASE STUDY

Netflix:

The online entertainment company's 148 million subscribers give it a massive BI advantage. Netflix has digitized its interactions with its 151 million subscribers. It collects data from each of its users and with the help of data analytics understands the behavior of subscribers and their watching patterns. It then leverages that information to recommend movies and TV shows customized as per the subscriber's choice and preferences. As per Netflix, around 80% of the viewer's activity is triggered by personalized algorithmic recommendations. Where Netflix gains an edge over its peers is that

by collecting different data points, it creates detailed profiles of its subscribers which helps them engage with them better. The recommendation system of Netflix contributes to more than 80% of the content streamed by its subscribers which has helped Netflix earn a whopping one billion via customer retention. Due to this reason, Netflix does not have to invest too much on advertising and marketing their shows. They precisely know an estimate of the people who would be interested in watching a show.

1. Describe the role of big data analytics in improving user experience.

2. Analyze how Netflix's data-driven strategy impacts marketing costs and customer loyalty.

END

1.