

#### FACULTY OF MANAGEMENT MBA (CBCS) / MBA (Technology Management) IV - Semester Examination, June / July 2025 [Common Paper for MBA (CBCS) / MBA (TM)] Subject: Business Policy and Strategy Paper: MB – 401

Time: 2 1/2 Hours

Max. Marks: 60

 $(5 \times 2 = 10 \text{ Marks})$ 

PART – A (Short Answer Type)

## Note: Answer all the questions.

- 1. Define strategy.
- 2. What is environmental scanning?
- 3. What are generic strategies?
- 4. What are integration strategies? Give examples.
- 5. What are some types of strategic controls?

# PART - B

# (Essay Answer Type)

#### Note: Answer all the questions.

6. (a) Explain the relationship between a company's vision, mission, and objectives and how these three elements work together to provide strategic direction.

(OR)

- (b) Briefly describe the strategic management process.
- 7. (a) Describe Porter's Five Forces framework and explain how it can be used to analyse industry attractiveness and a company's competitive position.

#### (OR)

- (b) How can a company use SWOT analysis to assess its internal strengths and weaknesses, external opportunities and threats, and apply these insights to strategy formulation?
- 8. (a) What are business-level strategies? Explain.

(OR)

- (b) Explain the concept of industry life cycle analysis.
- 9. (a) Discuss the different intensive growth strategies.

#### (OR)

- (b) Describe strategic alliances. What are some of the key factors that contribute to the success or failure of strategic alliances?
- 10. (a) Why are appropriate organizational structures and controls essential for implementing various strategies effectively?

(OR)

(b) What are the social and ethical responsibilities of businesses? How can businesses uphold social and ethical responsibilities while integrating ethical values into their strategic decision-making?

 $(5 \times 8 = 40 \text{ Marks})$ 

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#### 11. TechSpark's Growth Dilemma:

TechSpark Ltd. is a small but successful software company specialising in educational applications. Founded five years ago, their flagship product has gained a strong reputation for its user-friendliness and innovative features. The company is now facing a critical juncture. They have two primary options for future growth:

**Option A:** Product Diversification: Invest heavily in developing new software applications for different sectors, such as healthcare or finance. This would require significant research and development and entering new markets.

**Option B:** Market Penetration: Focus on expanding their reach within the education sector by targeting new geographical regions and offering complementary services like online training and support.

TechSpark has limited financial resources and needs to make a strategic decision about its future direction. The management team is divided on which path to pursue.

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#### Questions for Analysis:

- (i) What are the pros and cons of each expansion option?
- (ii) Which option aligns best with Local Eats' current resources and strengths?
- (iii) Recommend an option and briefly justify your choice.



### FACULTY OF MANAGEMENT MBA (CBCS) IV - Semester Examination, June / July 2025 Subject: Logistics and Supply Chain Management Paper – MB 402

Time: 2 1/2 Hours

Max. Marks: 60

(5 x 2 = 10 Marks)

 $(5 \times 8 = 40 \text{ Marks})$ 

PART – A (Short Answer Type)

# Note: Answer all the questions.

- 1. State the objectives of Logistics.
- 2. What is inbound logistics?
- 3. Briefly explain value delivery systems?
- 4. What is Bull-whip effect?
- 5. What are Lean supply chains?

#### PART – B (Essay Answer Type)

## Note: Answer all the questions.

6. (a) Define logistics management. Explain the importance of logistics management.

(OR)

- (b) Explain the role of logistics in supply chain management.
- 7. (a) Explain the significance of transportation in supply chain management.

(OR)

- (b) What is integrated logistics management? Explain its merits and demerits.
- 8. (a) "Developing of logistics organization is the key for effective supply chain management". Explain.
  - (b) Explain the conceptual framework for supply chain management.
- 9. (a) What is warehousing? Explain the different types of warehousing.

(OR)

(OR)

- (b) What is the role of distribution centers in warehouse management?
- 10. (a) Explain the following: (i) FMS (ii) Bar coding.

(OR)

(b) Discuss the importance of Green Supply Chain in the present era.

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#### PART-C

Case Study – (10 Marks)

11. Trade group is a joint venture of Elegant Logistics, along with its parent company NFC Inc.,, and Brown Brewers to provide a national distribution network service to the U.K. beverage industry. Trade group was developed in response to changing pressures and shifting market conditions in the industry. The beer market in the United Kingdom had been in long-term decline, with restaurants consumption shrinking at approximately 1 percent per year. Overall, the industry had been suffering from excess capacity and lower margins. On top of this, the government had required brewers to divest themselves of their interest in restaurants, a directive with major marketplace implications. Between 1992 and 1999, for example, restaurant ownership by regional and national brewers declined from 74 percent to 33 percent. The end result was typical of low-growth industries: Brewers were consolidating and repositioning and were in need of a fresh approach to marketing and distribution. As the United Kingdom's largest provider of brewery distribution services, Elegant Logistics had a significant interest in protecting a business that was under pressure from individual brewers and emerging restaurant ownership groups. Elegant's idea was to take over one major brewer's existing distribution infrastructure to achieve the critical mass associated with that company's market share. Leveraging that infrastructure, it would then offer cost effective logistics services to other beverage suppliers. This concept led to the formation of the Trade group joint venture between Elegant Logistics and Brown, which already was the industry's low-cost producer. Trade group is now the U.K.'s leading independent logistics provider to the beverage industry. It has annual revenues of Rs. 200 million and delivers approximately 280 million gallons of beer and other beverages to more than 27,000 retail customers on behalf of a number of beverage suppliers. Uniquely situated as a multiuser distributor between the consumer and the supplier, Trade group has revolutionized the beverage industry supply chain. Results to date have been encouraging. Trade group has enabled the brewers and beverage suppliers to reduce their operating costs, increase revenues through market expansion, and provide superior service levels to their customers. Market share for this innovative joint venture has reached the 40 to 50 percent range. In fact, this represents the largest outsourcing initiative yet undertaken in the United Kingdom.

#### Question:

- (i) Explain the role of 3PL in improvising the logistics of Trade Group and Elegant Logistics. (5 Marks)
- (ii) Explain the case facts for increase in the market share and joint venture Trade Group and Elegant Logistics. (5 Marks)

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Max. Marks: 40

 $(5 \times 2 = 10 \text{ Marks})$ 

# FACULTY OF MANAGEMENT MBA (CBCS) IV - Semester Examination, June / July 2025 Subject: Business Intelligence Paper: MB -- 403

Time: 2 1/2 Hours

PART – A (Short Answer Type)

#### Note: Answer all the questions.

- 1. Identify the most suitable BI style for tracking real-time sales performance.
- 2. Contrast the difference between text mining and web mining.
- 3. List the importance of performance measurement in BPM implementation.
- 4. Differentiate between GIS and GPS.
- Spell out the role of collaborative decision-making in enhancing business intelligence outcomes.

#### PART – B (Essay Answer Type)

Note: Answer all the questions.

- 6. (a) Describe the key milestones in the history and evolution of Business Intelligence. (OR)
  - (b) Analyze the key components of the Business Intelligence value chain and their role in enhancing data-driven decisions.
- 7. (a) Demonstrate how to implement a real-time data warehousing system for an online ticket booking platform.

(OR)

- (b) Critically analyze the role of web mining in tracking user behavior and improving website performance.
- 8. (a) Explain the key differences between BPM and BI, emphasizing their unique roles in business operations.

(OR)

- (b) Evaluate the effectiveness of different BPM methodologies like Six Sigma, Lean, and Agile in improving business performance.
- 9. (a) Elaborate on the tools and techniques of Business Analytics with suitable examples.

(OR)

- (b) Examine the role of web usage data in improving customer engagement through business analytics.
- 10. (a) Explore the critical success factors for BI implementation and their impact on organizational performance.

(OR)

(b) Evaluate the significance of social networks in enhancing business intelligence strategies.

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 $(5 \times 6 = 30 \text{ Marks})$ 



## FACULTY OF MANAGEMENT MBA (CBCS) IV - Semester Examination, June / July 2025 Subject: Financial Risk Management Paper –404 – F- III (Elective –Finance)

Time: 2 1/2 Hours

Max. Marks: 60

 $(5 \times 2 = 10 \text{ Marks})$ 

 $(5 \times 8 = 40 \text{ Marks})$ 

PART – A (Short Answer Type)

# Note: Answer all the questions.

- 1. Differentiate between Hazard and Peril.
- 2. What is VaR?
- 3. What is Marking to Market?
- 4. Briefly discuss the Currency Swaps.
- 5. What is European Vs. American Option?



## Note: Answer all the questions.

- 6. (a) Describe the sources of risk.
  - (b) Describe the classification of risk.
- 7. (a) Write a note on Risk Transfer as a method of Risk management technique. Name the forms of Risk Transfer.

# (OR)

(OR)

- (b) Suppose a bank has an expected return of 0.1 percent, and volatility (standard deviation) of 5 percent over a measurement period. What is the VaR assuming that returns are normally distributed and z score is -1.65? What would the VaR be, if expected return of the bank is 0.3 percent?
- 8. (a) Differentiate between Forward and Futures.

#### (OR)

- (b) Suppose the spot price of Oil is \$16 a barrel. The interest rate equals 9 percent, the cost of storing and insuring oil for One year is 1 percent of the value of Oil, what is the Forward price on a one year contract?
- 9. (a) Define Swaps and discuss its types.

## (OR)

 (b) Present the cash flows for the following Currency Swap: An agreement to pay 1% on a Japanese Yen principal of ¥1,040,000,000 and receive 5% on a US dollar principal of \$10,000,000 every year for 3 years. 10. (a) Define Option. Explain the features of Options.

#### (OR)

(b) An investor buys one European Put Option on one share of XYZ at a premium of Rs.2 on 31<sup>st</sup> July 2023. The Strike Price is Rs.60 and the contract matures on 30<sup>th</sup> September 2023. Present the payoff table if Spot Price (Rs.) is 55, 56, 57, 58,59, 60, 61, 62, 63 and 64.

Payoff Table must be presented with the columns Spot Price, Strike Price, Premium, Payoff and Net Cash Flow.

# PART – C Case Study – 10 Marks

11. The details of a European style call option for a non-dividend paying stock are given below: The current stock price (S<sub>0</sub>): ₹ 52 Price of strike (X): Rs.50 Expiration date (t): 3 months Rate of return without risk (r): 12% annually Annual volatility (σ): 30%

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## Questions:

- (i) What is d<sub>1</sub>?
- (ii) What is d<sub>2</sub>?
- (iii) What is the Theoretical Call Price according to Black Scholes Model?



#### FACULTY OF MANAGEMENT

MBA (CBCS) / MBA (Technology Management) / MBA (Tourism and Technology Management) IV - Semester Examination, June / July 2025 [Common Paper for MBA (CBCS) / MBA (TM) / MBA (TTM)] Subject: Buyer Behaviour Paper – MB 404 (Elective : III – Marketing)

Time: 2 1/2 Hours

Max. Marks: 60

2 = 10 Marks)

 $(5 \times 8 = 40 \text{ Marks})$ 

Code No: G-030

## PART – A (Short Answer Type)

## Note: Answer all the questions.

- 1. What is the buyer behavior research process?
- 2. What are the limitations of perception in buyer behavior?
- 3. Define reference groups and their types.
- 4. What are the sources of attitude formation?
- 5. Write a short note on consumerism.

## PART – B (Essay Answer Type)

#### Note: Answer all the questions.

6. (a) Discuss the contemporary dimensions of buyer behavior and their impact on consumer decision-making.

(OR)

- (b) Compare different theories of motivation and their implications for marketing strategies.
- 7. (a) Apply the concept of information processing theory to digital marketing.
  - (b) Discuss the process of encoding, retention, and retrieval of information in consumer decision-making.
- 8. (a) Discuss the impact of social and cultural settings on consumer buying decisions. **(OR)** 
  - (b) Compare the advantages and disadvantages of reference groups in consumer decision-making.
- 9. (a) Explain the relationship between attitude and consumer behavior.

#### (OR)

- (b) Analyze how consumers make decisions and evaluate alternatives.
- 10. (a) Explain the significance of buyer behavior models in marketing.

#### (OR)

(b) Compare traditional and contemporary models of buyer behavior.

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11. Global Electronics, a multinational company, launched its latest smartphone model with a standardized marketing campaign across different countries. The campaign emphasized advanced technology and high-end features but failed to attract buyers in some regions. A market research study revealed that while Western consumers focused on individualistic benefits such as personal productivity and entertainment, Asian consumers placed greater value on family-related features like parental control and multi-user functionality. Recognizing this cultural distinction, Global Electronics modified its marketing approach by highlighting features that resonated with each region's values. After implementing region-specific marketing strategies, the company observed a significant increase in sales and customer engagement across diverse markets.

#### Questions:

- (i) How did cultural differences impact the initial marketing strategy of Global Electronics?
- (ii) What changes did the company make to align with regional buyer behavior?



FACULTY OF MANAGEMENT MBA (CBCS) IV - Semester Examination, June / July 2025 Subject: Leadership and Change Management Paper No.: MB-404-HR-III (Elective – IV – HRM)

Time: 2 1/2 Hours

Max. Marks: 60

 $(5 \times 2 = 10 \text{ Marks})$ 

PART – A (Short Answer Type)

#### Note: Answer all the questions.

- 1. Define Vision and Momentum
- 2. What are the uses of Normative Model
- 3. Write a short note on Virginia Satir Model
- 4. What is Tropics Test?
- 5. What are the benefits of Scenario Analysis?

# PART – B (Essay Answer Type)

#### Note: Answer all the questions.

 $(5 \times 8 = 40 \text{ Marks})$ 

- 6. (a) Discuss the importance of five factor model of Personality for a leader.
  - (b) Explain the latest issues and contemporary leadership styles.
- 7. (a) Explain the relationship between Power and Influence tactics. List out the difference between Power and Influence tactics.

(OR)

(OR)

- (b) Explain VIM self-leadership model with an examples.
- 8. (a) Explain Noer's redundancy intervention model.

(OR)

- (b) What are the five stages of Planned Changes. Discuss.
- 9. (a) Discuss Leavitt Model of organizational system.

(OR)

- (b) What are the various types of Organizational Change? What are the factors responsible for Organizational Change?
- 10. (a) Elucidate Warfield 6-3-5 method for effective change management.

(OR)

(b) Give elaboration on Pendlebury, Kanter and Taffinder's Planned change models.

11. Many a times external factors lead to changes in organizational structures and culture. This truly happened at Adobe which has 11,000 employees worldwide with 4.5 billion \$ yearly revenue. Acrobat, Flash Player, and Photoshop are among the well-known products of Abode.

Due to new emerging technologies and challenges posed by small competitors Adobe had to stop selling its licensed goods in shrink-wrapped containers in 2011 and switched to offering digital services through the cloud. They gave their customers option of downloading the necessary software for free or subscribing to it every month rather than receiving a CD in a box.

The human resource (HR) function also took on a new role, which meant that employees had to adjust to new working practices. A standard administrative HR function was housed at Adobe's offices. However, it was less suitable for the cloud-based strategy and performed well when Adobe was selling software items.

HR changed its role and became more human centric and reduced its office based functions. The HR personnel did "walk-ins," to see what assistance they might offer, rather than waiting for calls. With a focus on innovation, change, and personal growth, Adobe employed a sizable percentage of millennials. Instead of having an annual reviews, staff members can now use the new "check-in" method to assess and define their own growth goals whenever they find it necessary, with quick and continuous feedback. Managers might receive constructive criticism from HR through the workshops they conduct. The least number of employees have left since this changed approach of HR.

#### Questions:

(i) Why did Adobe's HR department make this change since the company's goals and culture have changed?

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(ii) Suggest suitable Leadership style to Adobe to handle this change.

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## FACULTY OF MANAGEMENT MBA (CBCS) IV - Semester Examination, June / July 2025

Subject: Data Visualization

Paper – MB 404 Elective – III – (System with BA)

Time: 2 1/2 Hours

Max. Marks: 40

#### PART – A (Short Answer Type)

# Note: Answer all the questions.

- 1. Write a brief note on the history of data visualization.
- 2. Name two tools used for data visualization.
- 3. Name two features of a good dashboard.
- 4. Mention any two building blocks of Power BI.
- 5. What is meant by interacting with dashboards?

# PART – B (Essay Answer Type)

(OR)

# Note: Answer all the questions.

- 6. (a) Define data visualization and explain its significance in modern decision-making.
  - (b) Discuss the various types of data (categorical, ordinal, quantitative) and how each is visualized.
- 7. (a) Explain the use of Column and Bar graphs, Line graphs, and Pie charts in presenting business data.

#### (OR)

- (b) Discuss how Hierarchical and Landscape visualizations help in decision-making.
- 8. (a) Define dashboards and discuss their importance in real-time business monitoring. (OR)
  - (b) How can data be organized effectively for dashboards to ensure accurate visual insights?
- 9. (a) Explain the types of visualizations available in Power BI and their use cases.

(OR)

- (b) Describe the major building blocks of Power BI and how they contribute to dashboard creation.
- 10. (a) Explain how data from Excel, SQL, and Web sources can be integrated into Power BI.

(OR)

(b) Explain the use of the Report Server in Power BI. How does it enhance data reporting?

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 $(5 \times 6 = 30 \text{ Marks})$ 

 $(5 \times 2 = 10 \text{ Marks})$ 



#### FACULTY OF MANAGEMENT MBA (CBCS) IV - Semester Examination, June / July 2025 Subject: International Finance Paper : MB-IV (Elective – Finance)

Time: 2 1/2 Hours

Max. Marks: 60

 $(5 \times 2 = 10 \text{ Marks})$ 

 $(5 \times 8 = 40 \text{ Marks})$ 

Code No: G-034

# PART – A

# (Short Answer Type)

# Note: Answer all the questions.

- 1. What are ADRs?
- 2. Distinguish NEER Vs. REER?
- 3. What is Transaction exposure?
- 4. What Cross Border Trade Finance?
- 5. What is Value added Tax?

#### PART – B (Essay Answer Type)

#### Note: Answer all the questions.

- 6. (a) Explain the Reasons for collapse of Breton Woods system.
  - ) (OR)
  - (b) Describe the types of International Banking offices.
- 7. (a) Give an overview of the foreign exchange market stating the types, participants and quotes.

#### (OR)

- (b) Describe the Balance of Payments and its components.
- 8. (a) Explain the types of risk in foreign exchange markets.

## (OR)

- (b) The U.S. dollar interest rate is 10%, and the GBP interest rate is 8%. The spot USD/GBP exchange rate stands at \$1.40 (per GBP), and the 1-year forward rate is \$1.48. Determine whether a profitable arbitrage opportunity exists.
- 9. (a) Explain the OLI paradigm of FDI.

(OR)

- (b) Project cost is Rs.10,00,000, Expected annual free cash flow (FCF) is Rs.2,00,000 for 10 years, Cost of equity is 12%, Corporate tax rate is 30% Debt financing available is Rs.4,00,000 at 8% interest rate.
  Calculate the Adjusted Present Value of the Project. PVIFA 12%,10 years is 5.6502 and PVIFA 8%, 10 years is 6.710.
- 10. (a) Describe the methods adopted by organizations to reduce international tax liabilities.

(OR)

(b) Give an overview of the Transfer Pricing Rules in India.

11. The computer screen in foreign exchange trading room shows the following:

Currency	Spot	1-month points	3-month points
Mexican Peso	9.3850-80	70-80	210-215
South African rand	6.1200-300	425-445	1100-1200
Pound Sterling	1.6320-35	40-34	105-95

## **Questions:**

- (i) Express all the above quotations on outright basis as Bid and Ask prices.
- (ii) State which of the forward prices are at premium or Discount compared to their Spot Price.
- (iii) Calculate the Bid Ask Spread for Spot Prices of all the three currencies,

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FACULTY OF MANAGEMENT MBA (CBCS) IV - Semester Examination, June / July 2025 Subject: Services and Digital Marketing Paper – MB-405 (Elective – IV : Marketing)

Time: 2 1/2 Hours

Max. Marks: 60

 $(5 \times 2 = 10 \text{ Marks})$ 

Code No: G-035

#### PART – A (Short Answer Type)

#### Note: Answer all the questions.

- 1. Explain the concept of the Services Marketing Triangle.
- 2. How do service encounters impact customer experience?
- 3. Describe the process of service blueprinting.
- 4. Why is Search Engine Optimization important for businesses?
- 5. How does Web Analytics help in digital marketing?

# PART – B

## (Essay Answer Type)

(OR)

#### Note: Answer all the questions.

- 6. (a) Discuss the key characteristics of services and explain how they differ from goods in marketing.
  - (b) Analyze the role of market segmentation, targeting, and positioning in service marketing strategies.
- 7. (a) Explain how marketing research helps in understanding customer expectations and improving service delivery.

#### (OR)

- (b) Discuss the factors influencing customer perception of services and their impact on customer satisfaction.
- 8. (a) Examine the importance of the Seven Ps in the service marketing mix and their role in delivering quality service.

#### (OR)

- (b) Discuss the impact of service failures and the importance of service recovery strategies in maintaining customer satisfaction.
- 9. (a) Compare traditional marketing with digital marketing and analyze the growing significance of digital strategies in today's business environment.

#### (OR)

- (b) Discuss the role of Search Engine Optimization (SEO) and Google AdWords in enhancing online visibility and brand engagement.
- 10. (a) Analyze the role of content creation and engagement strategies in successful social media marketing.

(OR)

(b) Discuss the impact of web analytics on measuring and improving social media marketing performance.

 $(5 \times 8 = 40 \text{ Marks})$ 

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11. ShopEase, a newly launched e-commerce brand, invested heavily in digital marketing campaigns, including paid advertisements and social media promotions. Despite high website traffic, the company faced low conversion rates, as many customers abandoned their carts before completing a purchase. A detailed analysis revealed key issues such as a slow-loading website, a complex checkout process, and a lack of personalized engagement with potential buyers. Additionally, their social media campaigns lacked audience targeting, leading to poor customer interaction. To address these problems, ShopEase optimized its website for speed, simplified the checkout process, and launched retargeting campaigns to re-engage potential buyers. They also partnered with influencers and improved content personalization, which significantly boosted conversions and brand engagement.

#### **Questions:**

- (i) What were the primary reasons for ShopEase's low conversion rates despite high traffic?
- (ii) How did Shop Ease's revised digital marketing strategy contribute to its success?

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#### FACULTY OF MANAGEMENT MBA (CBCS) IV – Semester Examination, June / July 2025 Subject: Performance Management Paper: MB-404 (Elective – IV : HRM)

Time: 2 1/2 Hours

Max. Marks: 60

 $(5 \times 2 = 10 \text{ Marks})$ 

#### PART – A (Short Answer Type)

### Note: Answer all the questions.

- 1. Define the scope of Performance Management
- 2. Define Role play
- 3. Write about Performance loop
- 4. What is Cafeteria Benefit plan?
- 5. Explain WANG lab



#### Note: Answer all the questions.

(5 x 8 = 40 Marks)

- 6. (a) Discuss in detail the approaches to measure performance.
  - (OR) (b) Explain the determinants of job performance.
- 7. (a) Define Assessment centre. Explain the exercises used in assessment centre?
  - (OR) (b) Discuss performance analysis and review.
- 8. (a) Write about EFQM excellence model.
  - (OR) (b) Explain the types of benchmarking in detail.
- 9. (a) Define competency mapping. Explain its types.
  - (OR) (b) Write about CIPD human capital framework.
- 10. (a) Write about RCN model of Performance Management.
  - (OR) (b) Explain ATI performance improvement model.

**11.** ABC Inc. is a mid-sized technology firm with around 500 employees, specializing in custom software solutions. Over the past year, the company has experienced rapid growth, but with that came a decline in overall employee productivity and morale. The HR department received multiple complaints about unclear performance expectations and a lack of feedback from managers.

In response, the company decided to revamp its performance management system. Previously, it had relied on annual performance appraisals with little follow-up. The new approach included the following changes like Quarterly performance reviews instead of annual appraisals, implementation of SMART goals for every employee, 360-degree feedback involving peers, subordinates, and supervisors, regular one-on-one coaching sessions, performance improvement plans (PIPs) for underperformers. Within six months of implementing these changes, company reported a 15% increase in productivity and a noticeable improvement in employee engagement and retention.

#### Questions:

- 1. What were the main issues with ABC Inc original performance management system?
- 2. Why 360-degree feedback be more effective than traditional supervisor-only reviews?
- 3. What is a Performance Improvement Plan (PIP), and when should be used?

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Max. Marks: 60

(5 x 2 = 10 Marks)

## FACULTY OF MANAGEMENT MBA (CBCS) IV - Semester Examination, June / July 2025 Subject: Data Mining for Business Paper – MB-405 (Elective – IV : System)

Time: 2 1/2 Hours

PART – A (Short Answer Type)

#### Note: Answer all the questions.

1. What are the origins of data mining?

2. What is data summarization?

3. What is the purpose of clustering?

4. Mention any two applications of web usage mining.

5. How is data mining applied in agriculture?

# PART – B (Essay Answer Type)

#### Note: Answer all the questions.

(5 x 8 = 40 Marks)

- 6. (a) Discuss the various tasks in data mining with suitable examples.
  - (b) What are the motivating challenges in data mining?
- 7. (a) Explain the various steps involved in data pre-processing.
  - (b) Discuss the concept of feature extraction and feature transformation in detail.
- 8. (a) Describe the process of classification and prediction using decision trees.
  - (b) Compare and contrast the Naive Bayes classification and rule-based classification methods.
- 9. (a) Discuss the importance and applications of spatial data mining in business.
  - (b) Compare and contrast web content mining and web usage mining.
- 10. (a) Explain the application of data mining in the insurance and healthcare industries.
  - (b) Discuss the role of data mining in customer relationship management (CRM).

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**11.** A large financial institution, "SafeBank," was struggling with an increase in loan defaults. They needed a way to predict risky borrowers more accurately before approving loans. The bank decided to implement classification models using decision trees and logistic regression to analyze historical loan data, including customer income, employment status, past loan records, and repayment history.

The data mining team built a predictive model that classified loan applicants into three risk categories: low, medium, and high. The system flagged high-risk applicants, allowing loan officers to conduct deeper verifications. This proactive approach reduced loan defaults by 30% over the next year. Furthermore, it improved SafeBank's ability to offer loans to trustworthy applicants who were previously overlooked due to rigid manual filters.

#### Questions:

- (i) What role did classification techniques play in improving SafeBank's loan approval process?
- (ii) How can predictive data mining models help reduce financial risks in the banking sector?