Total Number of Pages: 02

Course: MBA
Sub_Code: MBPC3017

3rd Semester Regular Examination: 2025-26
SUBJECT: Data Mining for Business Decisions
BRANCH(S): MBA, GM
Time: 3 Hours
Max Marks: 100
Q.Code: U451

Answer Q1 (Part-I) which is compulsory, any eight from Part-II, and any two from Part-III.
The figures in the right-hand margin indicate marks.

Part-I

Q1	Answer the following questions:	(2 x 10)

a) What is the difference between a supervised and an unsupervised data-mining task?

b) Define Principal Component Analysis (PCA) and mention one use of it.

c) What is the purpose of using the tool Rattle in data mining workflows? Name any two other types of tools used in data mining.

d) Why is logistic regression used?

e) What is association rule mining?

f) Name two best-practices in data analytics and BI.

g) What is text-mining and how is it different from clustering?

h) In a dataset of 2000 records, you find that feature X and feature Y have a Pearson correlation of 0.85. What does this indicate about X and Y?

i) Give one situation where clustering would be more appropriate than a decision-tree model.

j) Why is visualization important in exploratory analytics?

Part-II

Q2	Only Focused-Short Answer Type Questions- (Answer Any Eight out of Twelve)	(6 x 8)

a) Describe how you would carry out Exploratory Analytics using R/Rattle and include basic metrics, correlational analysis, and visualization steps.

b) Explain how you would build a decision-tree and an artificial neural network (ANN) for a binary classification problem. Compare their strengths and weaknesses.

c) Suppose You have 1,000 transactions. Items A appear in 250 transactions, items B in 200, and items A & B together in 120. Compute (i) support of {A, B}, (ii) confidence of rule A → B.

d) Considering an example, discuss how regression and logistic regression differ in terms of assumptions, output, and applications.

e) Explain the role of clustering in BI and analytics. Describe a scenario in which you would use clustering before classification.

f) How does text-mining add value in a BI framework alongside structured-data methods? Provide two practical business examples.

g) Describe how market basket analysis plays a key role in a retail analytics project.

h) In the context of predictive modelling using R/Rattle, outline how you would perform validation of models (decision tree, logistic regression, ANN) and ensure robust generalization.

i) A bank wants to predict whether a customer is "High Risk" or "Low Risk" based on loan history. From past records: 40 % of customers were high risk, 60 % were low risk, 70 % of high-risk customers had late payment, 20 % of low-risk customers had late payment. A new customer has a late payment record. Compute the posterior probabilities using Naïve Bayes. Compute the Posterior probability using Naïve Bayes. (i) P (High Risk | Late Payment) (ii) P (Low Risk | Late Payment) (iii) Classify the customer as high-risk or low-risk.

j) A company wants to build a decision tree to predict whether customers will buy a product. Out of 20 customers, 12 purchased the product and 8 did not. If the customers are divided based on "Age" into two groups- Young (10 customers): 6 purchased, 4 did not; Old (10 customers): 6 purchased, 4 did not, Calculate (i) The entropy of the parent dataset. (ii) The entropy of each age group. (iii) The Information Gain (IG) obtained by splitting on Age.

k) You have three data points with coordinates: A (2, 3), B (6, 7), and C (4, 5). The initial cluster centroids are: Cluster 1: (2, 2), Cluster 2: (7, 6). (i) Calculate the Euclidean distance of each point (A, B, C) to both centroids. (ii) Assign each point to the nearest cluster. (iii) Compute the new centroids after this assignment.

l) A shop records the following information for 5 weeks: Whenever the advertising expenditure (X) increases, the weekly sales (Y) also tend to rise. The summarized data are: Mean of advertising expenditure: $\bar{X} = 20$, Mean of weekly sales: $\bar{Y} = 50$,
$\sum(X - \bar{X})(Y - \bar{Y}) = 180, \quad \sum(X - \bar{X})^2 = 90,$
(i) Compute the regression equation of Y on X.
(ii) Estimate the likely sales when advertising expenditure is ₹25.

Part-III
Only Long Answer Type Questions (Answer Any Two out of Four)

Q3   Discuss how regression analysis helps in business sales forecasting. Which performance evaluation measures are considered when a Neural network model is used for prediction?   **(16)**

Q4   What is a Confusion matrix? What are the different classification measures considered in a classification problem?   **(16)**

Q5   Explain in detail about the process of association rule mining used over large databases. How Apriori and FP-Growth algorithms are used for finding the frequent item sets?   **(16)**

Q6   Differentiate between classification and Clustering. Define the clustering problem and distinguish clearly between partitioning clustering methods (e.g., K-Means clustering) and hierarchical clustering methods. Which measures are used in clustering?   **(16)**

Registration No.:

3rd Semester Regular Examination: 2025-26
SUBJECT: Managing Digital Innovation and Transformation
BRANCH(S): MBA, GM
Time: 3 Hours
Max Marks: 100
Q.Code: U458

Answer Question No.1 (Part-I) which is compulsory, any eight from Part-II and any two from Part-III.
The figures in the right-hand margin indicate marks.

Part-I

Q1 **Answer the following questions:** (2 x 10)
a) What are the full forms of SaaS and PaaS?
b) What is cloud migration?
c) What is data monetization?
d) What do you mean by digital maturity?
e) Define value proposition.
f) What is the role of data governance in managing data as an asset?
g) Define digital strategy?
h) What is a knowledge worker and why are they important?
i) What do you mean by digital disruption?
j) What is the purpose of conducting a gap analysis?

Part-II

Q2 **Only Focused-Short Answer Type Questions- (Answer Any Eight out of Twelve)** (6 x 8)
a) What is employee empowerment and why is it important in digital transformation?
b) What is viral loop and how is it created through customer networks?
c) Mention six differences between digital skills and digital capabilities.
d) How do digital transformation and emerging technologies enable businesses to adapt and enhance their value propositions?
e) How does cloud computing support building digital capabilities?
f) What are the strategies for reskilling and upskilling employees to develop digital capabilities?
g) What is employee resistance, and why does it occur during digital transformation?
h) Discuss the various steps involved in gap analysis and explain their significance.
i) Mention six differences between direct customers and networked customers.

j) Define change management in the context of digital transformation.

k) What is referral marketing and how does it relate to customer networks?

l) What is sentiment analysis and how is it used in customer networks?

Part-III
Only Long Answer Type Questions (Answer Any Two out of Four)

Q3   What do you mean by digital transformation? Explain the four main domains of digital transformation and discuss how each contributes to organizational success.   **(16)**

Q4   Discuss the role of emerging technologies such as AI, IoT, Cloud computing, and robotics in enabling different classifications of digital transformation.   **(16)**

Q5   What do you mean by social media transformation? Discuss the strategic importance of social media transformation in enhancing customer engagement, brand awareness, and sales.   **(16)**

Q6   What are the common security concerns in cloud computing? Propose a roadmap for levering cloud computing to support digital initiatives in an engineering organization.   **(16)**

3rd Semester Regular Examination: 2025-26
SUBJECT: E-Commerce and Digital Markets
BRANCH(S): MBA, GM
Time: 3 Hours
Max Marks: 100
Q.Code: U468
Answer Q1 (Part-I) which is compulsory, any eight from Part-II and any two from Part-III.
The figures in the right-hand margin indicate marks.

Part-I

Q1 **Answer the following questions:**   (2 x 10)
  a) List any two applications of B2B E-commerce.
  b) State any two advantages of E-Commerce
  c) What is the importance of SEO in enhancing visibility for e-commerce websites?
  d) Differentiate between digital wallets and mobile banking in terms of security.
  e) Write some ethical and social issues in E-Commerce?
  f) What is "Bricks and mortar Vs Clicks and Mortar"? Briefly explain with example.
  g) What is Electronics Payment Gateway? List any two examples
  h) What is intermediation and disintermediation in E-commerce?
  i) What is importance of e-CRM in digital business operation?
  j) Mention any two e-marketing tools and their use in E-Business.

Part-II

Q2 **Only Focused-Short Answer Type Questions- (Answer Any Eight out of Twelve)**   (6 x 8)
  a) Discuss the E-Commerce architecture and its component with a block diagram.
  b) Explain how e-commerce is not only helpful in customer retention, but also the key to maximizing the revenue.
  c) Analyze the role of strategic e-marketing in enhancing brand visibility and customer engagement in online platform.
  d) Difference between Traditional Business and E-Business with suitable example.
  e) Discuss the role of AI in personalizing customer experiences in online shopping.
  f) Describe the various types of E-Business models with example.
  g) Briefly explain how e-business entrepreneurship can manage business incubators.
  h) What are social and behavioral issues associate with e-commerce?
  i) Discuss the impact of mobile shopping trends on e-commerce.
  j) What are the some of the key trends and innovation in e-commerce and digital market? How are business adapting to these changes?

k) How can virtual reality (VR) enhance product experiences for online shoppers?

l) Discuss the concept of Data privacy and its importance in online transaction.

Part-III
Only Long Answer Type Questions (Answer Any Two out of Four)

Q3 What is E-Business plan? Describe the steps involved in developing it. **(16)**

Q4 Discuss in details the integration of digital payment system, e-CRM, and e-marketing strategies for successful entrepreneurship. **(16)**

Q5 Explain the concept of Online marketplaces and their role in e-commerce. Discuss the advantages and disadvantages for businesses to sale through online marketplaces compare to operating their own e-commerce website. **(16)**

Q6 Compare and contrast different online business models, including subscription-based, freemium, and marketplace models. Explain the potential of each model for long-term success in e-commerce. **(16)**

Registration No.:

Total Number of Pages: 02

Course: MBA
Sub Code: MBPC3020

3rd Semester Regular Examination: 2025-26
SUBJECT: MANAGING DIGITAL PLATFORMS
BRANCH(S): MBA, GM
Time: 3 Hours
Max Marks: 100
Q.Code: U488

Answer Q1 (Part-I) which is compulsory, any eight from Part-II, and any two from Part-III.
The figures in the right-hand margin indicate marks.

Part-I

Q1 **Answer the following questions:** (2 x 10)
a) What is the full form of TRIPS?
b) What is cross-media marketing?
c) What is remarketing?
d) What is meant by digital rights management?
e) Name any two social media platforms?
f) What is platform competition?
g) What is digital media?
h) What is governance in media optimization?
i) Discuss the importance of Intellectual Property Rights in the digital economy.
j) What is the role of AI in digital marketing?

Part-II

Q2 **Only Focused-Short Answer Type Questions- (Answer Any Eight out of Twelve)** (6 x 8)
a) What are the main characteristics of a digital ecosystem? Explain in detail.
b) How does competition shape innovation in the digital ecosystem? Explain in detail.
c) Differentiate between a traditional business system and a digital ecosystem.
d) Explain six differences between channel optimization & audience platform utilization.
e) Mention six differences between cross-media and multi-channel marketing.
f) What are the six differences between governance and strategy in media?
g) How technological innovation shapes the competitive strategies of modern platforms?
h) Why is continuous improvement essential in platform utilization? Explain in detail.
i) Why do some platforms succeed in one region but fail in another? Justify your answer.
j) What is the connection between brand strategy and media governance? Explain.
k) What do you mean by 'platform neutrality' Justify your answer with examples?
l) Why is data governance important in a digital enterprise?

Part-III
Only Long Answer Type Questions (Answer Any Two out of Four)

Q3 Examine the role of data analytics in developing and refining digital marketing strategies. How does it influence decision-making and customer engagement? **(16)**

Q4 Compare and contrast transaction platforms, innovation platforms, and content platforms. How do they differ in value creation and business models? **(16)**

Q5 Explain the meaning of an Enterprise Digital Ecosystem? Examine the challenges and future trends of enterprise digital ecosystems. **(16)**

Q6 Define interactive marketing. Explain the various advantages and disadvantages for digital businesses. **(16)**