

**C-8024**

**Sub. Code**

**30111/30211**

**M.B.A. DEGREE EXAMINATION, APRIL 2026.**

**First Semester**

**MANAGEMENT CONCEPTS AND PRACTICES**

**(Common for Business Analytics/Digital Marketing &  
E-Commerce)**

**(2023 onwards)**

Duration : 3 Hours

Maximum : 75 Marks

**Section A**

(10 × 1 = 10)

Answer **all** questions.

1. Management is the art getting things done through
  - (a) People
  - (b) Planning
  - (c) Programme
  - (d) None
2. Management is a
  - (a) Profession
  - (b) Principles
  - (c) Performance
  - (d) None
3. Who laid much stress on operating level of management?
  - (a) Hendry Fayol
  - (b) Elton Mayo
  - (c) Taylor
  - (d) Douglas McGregor
4. Father of general administrative management is
  - (a) Taylor
  - (b) Fayol
  - (c) Oliver Sheldon
  - (d) William Ouchi

5. Which one of the following is a blue print for an organization?
- (a) Strategy                      (b) Policy  
(c) Planning                      (d) Procedure
6. Plans made in response to a given event occurred
- (a) Reactive plan  
(b) Proactive plan  
(c) Contingency plan  
(d) Tactical plan
7. Which one of the following is borderless organisation?
- (a) Committee  
(b) Project organisation  
(c) Virtual organisation  
(d) Task force
8. Name of the organization wherein line, staff and functional authority co exist
- (a) Functional                      (b) Line and Staff  
(c) Committee                      (d) Matrix
9. Two factor theory was given by
- (a) Elton Mayo                      (b) Herzberg  
(c) Maslow                      (d) None of these
10. Control function is performed by
- (a) Board of director  
(b) Works manager  
(c) Foreman  
(d) All of these

**Section B**

(5 × 5 = 25)

Answer **all** questions, choosing either (a) or (b).

11. (a) Explain the levels of management.

Or

- (b) Show the importance of management. Explain.

12. (a) Explain the pre-scientific management Era.

Or

- (b) Explain the Contribution behavioural scientists by Peter Drucker.

13. (a) What are the nature of planning? Explain.

Or

- (b) Explain the steps of decision making.

14. (a) What are the purpose of organisation? Explain.

Or

- (b) Explain the leadership styles.

15. (a) Explain the importance of motivation.

Or

- (b) Explain the types of Communication.

**Section C**

(5 × 8 = 40)

Answer **all** questions, choosing either (a) or (b).

16. (a) Management as an Art, Science. Explain.

Or

- (b) 'Management is the effective utilization of human and material resources to achieve the enterprise's objectives'. Comment.

17. (a) Explain the process management and contribution of Henri Fayol.

Or

(b) Explain the contributions of behavioral scientists by Abraham and Mc-Gregor.

18. (a) Explain the types of decisions.

Or

(b) Explain the importance of decision making.

19. (a) Explain the types of organization.

Or

(b) Briefly explain the various types of authority relationships.

20. (a) Explain the Herzberg and Mcgregor theory of motivation.

Or

(b) Explain the steps in controlling.

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**C-8025**

**Sub. Code**

**30112**

**M.B.A. DEGREE EXAMINATION, APRIL 2026**

**First Semester**

**Business Analytics**

**ACCOUNTING FOR BUSINESS ANALYSTS**

**(2023 onwards)**

Duration : 3 Hours

Maximum : 75 Marks

**Part A**

(10 × 1 = 10)

Answer **all** questions.

1. Which document is primarily prepared to record dual effects in accounts?
  - (a) Journal
  - (b) Ledger
  - (c) Cash Book
  - (d) Balance Sheet
  
2. What is the primary software used for computerised accounting in many organisations?
  - (a) Excel
  - (b) Tally ERP
  - (c) PowerPoint
  - (d) Word
  
3. Which tool is used for the in-depth analysis of financial statements?
  - (a) Common-size statement
  - (b) Ratio analysis
  - (c) Trend analysis
  - (d) All of the above

4. What does the current ratio measure?
- (a) Liquidity
  - (b) Profitability
  - (c) Efficiency
  - (d) Solvency
5. What does a cash budget represent?
- (a) The anticipated financial position
  - (b) Cash inflows and outflows for a period
  - (c) Expected profitability
  - (d) Production costs
6. Which of the following is a key component of responsibility accounting?
- (a) Cost control
  - (b) Preparing financial statements
  - (c) Capital expenditure planning
  - (d) Tax accounting
7. The contribution margin is calculated as:
- (a) Sales - Variable Costs
  - (b) Sales - Fixed Costs
  - (c) Sales - Total Costs
  - (d) Fixed Costs + Profit
8. Which tool is commonly used for profit planning?
- (a) Cost-volume-profit analysis
  - (b) Trend analysis
  - (c) Activity-based costing
  - (d) Ratio analysis

9. Depreciation is charged on which type of assets?
- Current assets
  - Fixed tangible assets
  - Intangible assets only
  - All assets
10. Which method of inventory valuation is suitable for unique or high-value items?
- FIFO
  - LIFO
  - Weighted Average
  - Specific Identification

**Part B**

(5 × 5 = 25)

Answer **all** questions, choosing either (a) or (b).

11. (a) Difference between Book keeping and Accounting.

Or

- (b) Journalise the following transactions, post them in to ledger and bring out the balances.

2005 Jan 1	Started business with cash Rs. 25,000
5	Paid in to bank Rs. 10,000
10	Cash purchases Rs. 20,000
12	Cash sales Rs. 40,000
15	Cash paid to Siva Rs. 20,000
17	Cash received from Sakthi Rs. 12,000
20	Furniture purchased for cash Rs. 3,000
23	Commission received Rs. 1,000
27	Telephone rent paid Rs. 500
31	Salaries to office Staff Rs. 4,000

12. (a) How do you deal with the following item in a Comparative Balance sheet?

Particulars	31-3-2020	31-3-2021
	Rs.	Rs.
Fixed assets	40,00,000	50,00,000
Current assets	10,00,000	9,00,000
Share capital	5,00,000	6,00,000

Or

- (b) What do you understand by 'Funds' and 'Fund flow'? How do you analyse the 'Flow of funds'?
13. (a) Compare and contrast responsibility accounting with traditional accounting methods.

Or

- (b) You are required to prepare a production budget for the half year ending June 2020 from the following information:

Product	Budgeted sales Qty units	Actual stock 3 1-12-2019 units	Desired stock on 30-6-2020 units
S	20,000	4,000	5,000
T	50,000	6,000	10,000

14. (a) (i) Calculate the breakeven point from the following:  
 Sales 1,000 units at Rs. 10 each Rs. 10,000  
 Variable cost — Rs. 6 per unit  
 Fixed cost Rs. 8,000
- (ii) If the selling price is reduced to Rs. 9 What is the New Breakeven point?

Or

- (b) What are the managerial use of variance analysis?

15. (a) What are the objectives of inventory valuation?

Or

(b) A company purchases machinery for Rs. 2,00,000 with a residual value of Rs. 20,000 and a depreciation rate of 20% per annum using the diminishing balance method. Calculate the depreciation for the first three years.

**Part C**

(5 × 8 = 40)

Answer **all** questions, choosing either (a) or (b).

16. (a) The following trial Balance was extracted from the books of V as on 31<sup>st</sup> Dec 2022.

Debit balances	Rs.	Credit balances	Rs.
Plant & machinery	80,000	Capital	50,000
Manufacturing wages	10,000	Sundry creditors	25,000
Salaries	6,800	Discount	800
Opening stock	30,000	Purchase returns	750
Discount	350	Sales	1,77,000
Bank charges	75	Provision for	525
Insurance & tax	10,000	bad debts	
Sundry debtors	45,000		
Carriage in wards	750		
Carriage outwards	1,200		
Purchases	60,000		
Sales returns	1,000		
Advertisement	2,000		
Cash at bank	6,000		
Cash in hand	900		

Adjustments:

- (i) Stock in hand on 31<sup>st</sup> Dec 2020 was valued at Rs. 35,000
- (ii) Depreciate plant & machinery by 6%.
- (iii) Bring provision for bad debts Rs .500.
- (iv) Interest on capital to be allowed at 5% p.a  
Prepare trading & profit and loss account & Balance sheet.

Or

- (b) What do you understand by the terms 'Reserves' and 'Provisions'? Give Examples.

17. (a) From the following given ratios and figures prepare a summarized Balance sheet of XYZ Co.Ltd. for the year ended 31-12-2021.

- (i) Working Capital – Rs. 60,000
- (ii) Reserve and Surplus – Rs. 40,000
- (iii) Bank overdraft – Rs. 10,000
- (iv) Asset (fixed) proprietorship ratio – 0.75
- (v) Current ratio – 2.50
- (vi) Liquid ratio – 1.50

Or

- (b) Difference between Cash flow and Fund flow statement.

18. (a) Explain the role and importance of responsibility accounting.

Or

- (b) From the following information prepare flexible budget for overheads at 50%, 60%, and 70% capacity.

	60% capacity (Rs.)
Fixed overheads:	
Depreciation	16,000
Insurance	4,500
Salary	15,000
Semi variable overheads:	
Power (40% fixed)	30,000
Repairs (80% fixed)	3,000
Variable overheads:	
Raw materials	6,000
Wages	18,500
Total	93,000
Estimated direct labour hours	1,86,000

19. (a) Assuming that the cost structure and selling price remain the same in period I and II find out:
- (i) P/V Ratio
  - (ii) Fixed cost and B.E.P
  - (iii) Profit when sales are Rs. 1,00,000
  - (iv) Sales required to earn profit of Rs. 20,000
  - (v) Margin of safety in II period.

Period	Sales	Profit
I	1,20,000	9,000
II	1,40,000	13,000

Or

- (b) Discuss the advantages and disadvantages of Marginal costing.

20. (a) Explain the different methods of depreciation.

Or

(b) A company acquired a building on January 1, 2018, for Rs. 50, 00,000. The building has a useful life of 25 years and a residual value of Rs. 5,00,000. The company uses the straight-line method for depreciation.

- (i) On December 31, 2023, the building is sold for Rs. 42,00,000.
- (ii) Calculate the profit or loss on the sale.
- (iii) Prepare the building account and the depreciation account up to the date of sale.

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**C-8026**

**Sub. Code**

**30113**

**M.B.A. DEGREE EXAMINATION, APRIL 2026.**

**First Semester**

**Business Analytics**

**SPREADSHEET MODELING**

**(2023 onwards)**

Duration : 3 Hours

Maximum : 75 Marks

**Part A**

(10 × 1 = 10)

Answer **all** questions.

1. Which component of the Excel interface allows users to access frequently used commands?
  - (a) Status Bar
  - (b) Quick Access Toolbar
  - (c) Formula Bar
  - (d) Navigation Pane
  
2. What is the purpose of the 'Drag and Drop' feature in Excel?
  - (a) To create pivot tables
  - (b) To move or copy data to a new location
  - (c) To format rows and columns automatically
  - (d) To protect worksheet data

3. Which of the following is NOT a formatting option in Excel?
  - (a) Currency Symbol
  - (b) Data Percentages
  - (c) Page Margins
  - (d) Cell Alignment
  
4. What does the Auto Fill feature in Excel primarily help with?
  - (a) Protecting worksheets
  - (b) Copying formulas or patterns across cells
  - (c) Changing cell colors
  - (d) Grouping data
  
5. Which of the following is NOT a valid reference type in Excel?
  - (a) Absolute Reference
  - (b) Relative Reference
  - (c) Mixed Reference
  - (d) Static Reference
  
6. What does the ROUNDUP function do?
  - (a) Rounds a number to the nearest integer
  - (b) Rounds a number up to the next largest integer
  - (c) Rounds a number down to the smallest integer
  - (d) Returns only the decimal portion of a number

7. What does the IFERROR function do?
- (a) Removes errors from a dataset
  - (b) Displays an alternate value if a formula results in an error
  - (c) Detects errors in a workbook
  - (d) Formats cells with errors
8. What does the CLEAN ( ) function do?
- (a) Removes duplicate values in a range
  - (b) Removes non-printable characters from text
  - (c) Trims unnecessary spaces
  - (d) Removes formatting from a worksheet
9. Which of the following is NOT a feature of Solver In Excel
- (a) Optimization of results
  - (b) Identifying errors in a dataset
  - (c) Solving linear programming problems
  - (d) Constraining variables within defined limits
10. Which of these tools allows you to apply multiple criteria to filter a dataset?
- (a) AutoFilter
  - (b) Advanced Filter
  - (c) Pivot Table
  - (d) Goal Seek

**Part B**

(5 × 5 = 25)

Answer **all** questions, choosing either (a) or (b).

11. (a) Explain the steps to customize the Quick Access Toolbar in MS Excel.

Or

- (b) Describe the process of inserting and deleting rows and columns in an Excel worksheet.

12. (a) Explain the steps to copy or move a worksheet within the same workbook.

Or

- (b) Write a note on the purpose of protecting worksheets and how to enable it.

13. (a) Write a short note on the purpose of the SUM function and give an example of its use.

Or

- (b) What is the purpose of the AVERAGE function in Excel? Write an example to demonstrate its use.

14. (a) What is conditional formatting? Provide two examples of its use.

Or

- (b) What is the difference between the TRIM ( ) and CLEAN ( ) functions in Excel?

15. (a) Explain the process of grouping and ungrouping fields in a Pivot Table.

Or

- (b) What is the Goal Seek tool in Excel? Describe its application with an example.

**Part C**

(5 × 8 = 40)

Answer **all** questions, choosing either (a) or (b).

16. (a) Explain the different ways to manage worksheets in Excel, including saving, renaming, and adjusting the layout using features like AutoFit and Wrap Text.

Or

- (b) Discuss the main features and functionalities of the Ribbon in MS Excel, and explain its role in managing workbooks efficiently.

17. (a) Discuss in detail the various formatting options available in MS Excel, such as currency symbols, date formatting, and alignment of cell content.

Or

- (b) Explain the process of entering data in Excel, including numbers, text, and default text alignment, along with how to use AutoFill for repetitive entries.

18. (a) Explain how to use the logical functions IF, AND, and OR in Excel, with examples.

Or

- (b) Discuss the different types of references (relative, absolute, and mixed) in MS Excel and explain how they are used in formulas.

19. (a) Discuss the steps to create a scatter plot and explain its significance in data analysis.

Or

- (b) Explain the OFFSET function and its applications in Excel with a practical example.

20. (a) Discuss how to use the What-If Analysis tools (Scenario Manager, Goal Seek, and Solver) to make business decisions.

Or

- (b) Explain the steps to create a Pivot Table and customize its layout for better readability.
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**C-8027**

**Sub. Code**

**30114/  
30215**

**M.B.A. DEGREE EXAMINATION, APRIL 2026**

**First Semester**

**STATISTICS FOR BUSINESS**

**(Common for M.B.A. Business Analytics/Digital  
Marketing & E-Commerce)**

**(2023 onwards)**

Duration : 3 Hours

Maximum : 75 Marks

**Part A**

(10 × 1 = 10)

Answer **all** questions.

1. Which measure of central tendency is most affected by extreme outliers?
  - (a) Mean
  - (b) Median
  - (c) Mode
  - (d) Range
  
2. In descriptive statistics, what does the “variance” measure?
  - (a) The spread or dispersion of data points around the mean
  - (b) The central value of the dataset
  - (c) The total range of the dataset
  - (d) The frequency of each data point in the dataset

3. Which of the following is an example of a discrete probability distribution?
- (a) Normal distribution
  - (b) Binomial distribution
  - (c) Exponential distribution
  - (d) Uniform distribution
4. The area under the probability density curve of a continuous probability distribution must equal:
- (a) 0
  - (b) 1
  - (c) 2
  - (d) -1
5. What does the p-value represent in hypothesis testing?
- (a) The probability of making a Type I error
  - (b) The probability of making a Type II error
  - (c) The probability of observing the test statistic or one more extreme if the null hypothesis is true
  - (d) The probability of rejecting the null hypothesis
6. The power of a statistical test is the probability of:
- (a) Rejecting the null hypothesis when it is true
  - (b) Failing to reject the null hypothesis when it is true
  - (c) Rejecting the null hypothesis when it is false
  - (d) Failing to reject the null hypothesis when it is false
7. What is the future value of an investment of Rs. 10,000 at an annual interest rate of 8% compounded annually for 5 years?
- (a) Rs.14,693.28
  - (b) Rs.14,440.00
  - (c) Rs.14,859.39
  - (d) Rs.15,000.00

8. An annuity is a series of:
- (a) Equal payments made at equal intervals
  - (b) Equal payments made at irregular intervals
  - (c) Varying payments made at equal intervals
  - (d) Varying payments made at irregular intervals
9. Correlation coefficient measures the:
- (a) Strength and direction of the relationship between two variables
  - (b) Magnitude of each variable
  - (c) Probability of occurrence of an event
  - (d) Variability within each variable
10. In simple linear regression, how many independent variables are used to predict the dependent variable?
- (a) One
  - (b) Two
  - (c) Three
  - (d) Multiple

**Part B**

(5 × 5 = 25)

Answer **all** questions, choosing either (a) or (b).

11. (a) Consider the following frequency distribution.

Class	Frequency
10-19	10
20-29	14
30-39	17
40-49	7
50-59	2

Construct a cumulative frequency distribution and a cumulative relative frequency distribution.

Or

- (b) A data set has a first quartile of 42 and a third quartile of 50. Compute the lower and upper limits for the corresponding box plot. Should a data value of 65 be considered an outlier?

12. (a) Consider the experiment of selecting a playing card from a deck of 52 playing cards. Each card corresponds to a sample point with a  $1/52$  probability.
- (i) List the sample points in the event an ace is selected
- (ii) List the sample points in the event an club is selected

Or

- (b) A researcher reports survey results by stating that the standard error of the mean is 20. The population standard deviation is 500.
- (i) How large was the sample used in this survey?
- (ii) What is the probability that the point estimate was within  $\pm 25$  of the population mean?
13. (a) Nielsen reported that young men in the United States watch 56.2 minutes of primetime TV daily (The Wall Street Journal Europe, November 18, 2003). A researcher believes that young men in Germany spend more time watching prime-time TV. A sample of German young men will be selected by the researcher and the time they spend watching TV in one day will be recorded. The sample results will be used to test the following null and alternative hypotheses.

$$H_0 : \mu \leq 56.2$$

$$H_a : \mu > 56.2$$

- (i) What is the Type I error in this situation?  
What are the consequences of making this error?
- (ii) What is the Type II error in this situation?  
What are the consequences of making this error?

Or

- (b) Describe the steps involved in hypothesis testing.
14. (a) Ram divided Rs.70,000 between his sons — Shyam and Mohan. Both the sons invested their respective parts at 6% rate of interest compounded annually. Ram had divided his property in such a manner that amount invested by Shyam for 3 years would be equivalent to the amount invested by Mohan for 5 years. Find the share of both sons.

Or

- (b) A loan of Rs.50,000, at the interest rate of 5% compounded annually, is to be amortized by equal payments at the end of each year for 10 years. Find:
    - (i) Annual payment
    - (ii) The principal outstanding at beginning of 8<sup>th</sup> period.
15. (a) What are the properties of correlation coefficient of Karl Pearson?

Or

- (b) Given are five observations collected in a regression study on two variables.

$x_i$	2	6	9	13	20
$y_i$	7	18	9	26	23

- (i) Develop a scatter diagram for these data.
- (ii) Develop the estimated regression equation for these data.
- (iii) Use the estimated regression equation to predict the value of when  $x = 4$ .

**Part C**

(5 × 8 = 40)

Answer **all** questions, choosing either (a) or (b).

16. (a) A department of transportation’s study on driving speed and mileage for midsize automobiles resulted in the following data.

Driving Speed	30	50	40	55	30	25	60	25	50	55
Mileage	28	25	25	23	30	32	21	35	26	25

Compute and interpret the sample correlation coefficient.

Or

- (b) Suppose the data have a bell-shaped distribution with a mean of 30 and a standard deviation of 5. Use the empirical rule to determine the percentage of data within each of the following ranges.
- (i) 20 to 40
  - (ii) 15 to 45
  - (iii) 25 to 35

17. (a) An average of 15 aircraft accidents occur each year according to XY book of facts.
- (i) Compute the mean number of aircraft accidents per month.
  - (ii) Compute the probability of no accidents during a month.
  - (iii) Compute the probability of exactly 1 accident during a month.

Or

- (b) Delta Airlines quotes a flight time of 2 hours, 5 minutes for its flights from Cincinnati to Tampa. Suppose we believe that actual flight times are uniformly distributed between 2 hours and 2 hours, 20 minutes.
- (i) Show the graph of the probability density function for flight time.
  - (ii) What is the probability that the flight will be no more than 5 minutes late?
  - (iii) What is the probability that the flight will be more than 10 minutes late?

18. (a) Consider the following hypothesis test:

$$H_{\{0\}} : \mu \leq 25$$

$$H_{\{a\}} : \mu > 25$$

A sample of 40 provided a sample mean of 26.4. The population standard deviation is 6.

- (i) Compute the value of the test statistic.
- (ii) What is the p-value?
- (iii) At  $\alpha = .01$  what is your conclusion?

Or

- (b) The variance in drug weights is critical in the pharmaceutical industry. For a specific drug, with weights measured in grams, a sample of 18 units provided a sample variance of  $s^2 = .36$ .
- (i) Construct a 90% confidence interval estimate of the population variance for the weight of this drug.
  - (ii) Construct a 90% confidence interval estimate of the population standard deviation.
19. (a) Mr. X purchases an asset for Rs.1,00,000 on instalment basis. Each instalment is to be paid at the beginning of each quarter. Find the size of each instalment if the money is to be repaid in three years and effective rate of interest is 6%.

Or

- (b) If interest is compounded continuously at an annual rate of 8%, how much time (in years) would it take for a principal P to
- (i) Double
  - (ii) Triple
20. (a) Compare and contrast simple linear regression and multiple linear regression models.

Or

- (b) Explain the concept of correlation and its significance in statistics. Provide examples of positive, negative and zero correlations.
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**C-8028**

**Sub. Code**

**30115**

**M.B.A. DEGREE EXAMINATION, APRIL 2026.**

**First Semester**

**Business Analytics**

**ECONOMIC ANALYSIS FOR BUSINESS DECISIONS**

**(2023 onwards)**

Duration : 3 Hours

Maximum : 75 Marks

**Part A**

(10 × 1 = 10)

Answer **all** questions.

1. If a consumer's income doubles and their consumption also doubles, their marginal propensity to consume is
  - (a) 0
  - (b) 0.5
  - (c) 1
  - (d) 2
  
2. Which of the following is a key characteristic of managerial economics?
  - (a) It focuses solely on production processes
  - (b) It uses economic tools for decision-making in business
  - (c) It deals only with the government sector
  - (d) It emphasizes historical analysis over forecasting

3. What is the supply equation if the supply curve is linear?
- (a)  $Q_s = a + bP$                       (b)  $Q_s = a - bP$   
(c)  $Q_s = a \times P$                       (d)  $Q_s = a/P$
4. Which of the following is NOT a determinant of supply?
- (a) Cost of production  
(b) Price of related goods  
(c) Consumer preferences  
(d) Government regulations
5. If increasing production leads to higher per-unit costs, it is an example of
- (a) Economies of scale  
(b) Diseconomies of scale  
(c) Marginal cost reduction  
(d) Fixed cost allocation
6. What does the term 'break-even point' mean in cost analysis?
- (a) Total revenue equals total cost  
(b) Total fixed cost equals total variable cost  
(c) Marginal cost equals marginal revenue  
(d) Variable cost equals profit

7. In the long run, equilibrium in perfect competition occurs when
- (a) Marginal cost  $>$  Marginal revenue
  - (b) Price = Minimum average cost
  - (c) Total cost = Total revenue
  - (d) Price  $>$  Marginal revenue
8. The kinked demand curve model is used to explain
- (a) Price rigidity in oligopolies
  - (b) Profit maximization in monopolies
  - (c) Pricing in perfect competition
  - (d) Product differentiation in monopolistic competition
9. Which of the following is a tool of fiscal policy?
- (a) Open market operations
  - (b) Taxation
  - (c) Reserve ratio
  - (d) Interest rates
10. Which index is commonly used to measure inflation?
- (a) Gross Domestic Product (ODP)
  - (b) Consumer Price Index (CPI)
  - (c) Human Development Index (HDI)
  - (d) Producer Price Index (PPI)

**Part B**

(5 × 5 = 25)

Answer **all** questions, choosing either (a) or (b).

11. (a) Define managerial economic. How does it serve as a tool for making business decisions and solving economic problems in firms?

Or

- (b) Discuss the role of elasticity of demand in understanding the relationship between a consumer's income, preferences, and spending patterns.

12. (a) Define demand elasticity and explain the factors affecting price elasticity of demand.

Or

- (b) Explain the Law of Supply and its significance in the market.

13. (a) How do production costs affect pricing decisions in a competitive market?

Or

- (b) What are the key factors a manager should consider when making production decisions in the short run?

14. (a) Describe the key features of a perfectly competitive market.

Or

- (b) What are the main characteristics of monopolistic competition? Provide examples.

15. (a) What are the main phases of the business cycle? Briefly explain each phase.

Or

- (b) How does inflation impact business decision-making?

**Part C**

(5 × 8 = 40)

Answer **all** questions, choosing either (a) or (b).

16. (a) Illustrate with examples the factors that determine a consumer's satisfaction level and how it impacts their spending habits.

Or

- (b) How does managerial economics integrate traditional economic theories with practical business strategies? Give examples.

17. (a) Explain the concept of market equilibrium and how it is determined by demand and supply.

Or

- (b) Construct a supply equation and describe its components with examples.

18. (a) Describe how cost-related decisions differ in the short run and the long run, with examples.

Or

- (b) Analyze the importance of cost-volume-profit (CVP) analysis in making business decisions.

19. (a) Illustrate and explain the equilibrium of a firm under perfect competition in the long run.

Or

- (b) Discuss the role of non-price competition in monopolistic competition.
20. (a) Discuss the role of fiscal policy in stabilizing an economy during a recession.

Or

- (b) Differentiate between real and nominal GDP. Why is the distinction important for business decisions?
-

**C-8029**

**Sub. Code**

**30116**

**M.B.A. DEGREE EXAMINATION, APRIL 2026.**

**First Semester**

**Business Analytics**

**RESEARCH METHODOLOGY**

**(2023 onwards)**

Duration : 3 Hours

Maximum : 75 Marks

**Part A**

(10 × 1 = 10)

Answer **all** questions.

1. What does SPSS stand for?
  - (a) Statistical Program for Social Sciences
  - (b) Statistical Package for Social Science
  - (c) Statistical Processing for Social Sciences
  - (d) Statistical Process for Social Science
2. Which of the following is the default data view in SPSS?
  - (a) Chart View
  - (b) Variable View
  - (c) Data View
  - (d) Output View
3. Which type of research focuses on exploring and gaining a deep understanding of a Phenomenon or issue?
  - (a) Descriptive Research
  - (b) Exploratory Research
  - (c) Experimental Research
  - (d) Analytical Research

4. Which of the following is the primary purpose of a questionnaire in research?
  - (a) To gather quantitative data only
  - (b) To collect detailed qualitative data through interviews
  - (c) To collect data for analysis in a structured manner
  - (d) To manipulate variables during an Experiment
5. Which of the following is the primary goal of descriptive statistics?
  - (a) To make predictions about a population
  - (b) To summarize and organize data
  - (c) To test hypotheses about the data
  - (d) To determine causal relationships between variables
6. Which of the following is an example of a measure of central tendency?
  - (a) Standard deviation
  - (b) Mean
  - (c) Range
  - (d) Variance
7. What is the first step in hypothesis testing?
  - (a) Calculate the p-value
  - (b) State the null and alternative hypotheses
  - (c) Choose the significance level ( $\alpha$ )
  - (d) Compute the test statistic.
8. A Type I error occurs when
  - (a) The null hypothesis is wrongly rejected when it is true
  - (b) The null hypothesis is wrongly accepted when it is false
  - (c) The alternative hypothesis is true
  - (d) The test statistic is zero

9. What does a correlation coefficient of  $-0.85$  indicate?
- (a) A strong positive linear relationship
  - (b) A strong negative linear relationship
  - (c) No relationship
  - (d) A weak negative linear relationship
10. What is the purpose of a normal probability plot for residuals in regression analysis?
- (a) To check for normality of residuals
  - (b) To assess the goodness of fit of the regression line
  - (c) To check for multicollinearity
  - (d) To check for outliers in the data

**Part B**

(5 × 5 = 25)

Answer **all** questions, choosing either (a) or (b).

11. (a) What is meant by SPSS? How to create windows?
- Or
- (b) What is data? How to create a data view?
12. (a) Distinguish between Qualitative and Quantitative research.
- Or
- (b) Write short note on :
- (i) Exploratory,
  - (ii) Experimental research.
13. (a) Explain univariate descriptive analysis.
- Or
- (b) Write short note on :
- (i) Bar charts,
  - (ii) Pie charts.

14. (a) Explain type I and type II error.

Or

(b) Explain one way ANOVA.

15. (a) Explain Correlation and simple Linear.

Or

(b) Explain Coefficient of correlation.

**Part C**

(5 × 8 = 40)

Answer **all** questions, choosing either (a) or (b).

16. (a) Briefly explain creation and saving of SPSS files.

Or

(b) Explain the select command use in SPSS.

17. (a) Explain various types of Research.

Or

(b) Explain the various types of scales.

18. (a) Analyse the merits and demerits of various probability sampling techniques.

Or

(b) Compare and contrast the univariate descriptive analysis in detail with suitable examples.

19. (a) Explain Null and Alternate hypotheses with examples.

Or

(b) Explain the Related sample Wilcoxon Signed Rank Test in hypotheses II.

20. (a) Explain the Relationship through scatter plots.

Or

(a) Distinguish coefficient of correlation from coefficient of variation.

**C-8030**

**Sub. Code**

**30121/30221**

**M.B.A. DEGREE EXAMINATION, APRIL 2026**

**Second Semester**

**MARKETING MANAGEMENT**

**(Common for Business Analytics/  
Digital Marketing & E-Commerce)**

**(2023 onwards)**

Duration : 3 Hours

Maximum : 75 Marks

**Part A**

(10 × 1 = 10)

Answer **all** questions.

1. The term marketing refers to \_\_\_\_\_
  - (a) New product concepts
  - (b) Advertising
  - (c) Philosophy that stresses customer value and satisfaction
  - (d) Planning sales campaigns
  
2. \_\_\_\_\_ is a branch which deals with the various stages a consumer goes through before purchasing products or services for his end uses
  - (a) consumer behaviour
  - (b) consumer interest
  - (c) consumer attitude
  - (d) consumer perception

3. Groups that have a direct or indirect influence on a person's attitude or behaviour is known as \_\_\_\_\_
- (a) family
  - (b) reference groups
  - (c) roles
  - (d) status
4. Augmented product contains \_\_\_\_\_
- (a) Basic needs
  - (b) Functional characteristics
  - (c) Additional benefit
  - (d) Expected features
5. The use of price points for reference to different levels of quality for a company's related products is typical of which product - mix pricing strategy.
- (a) optional product pricing
  - (b) captive product pricing
  - (c) by product pricing
  - (d) product line pricing
6. The \_\_\_\_\_ holds that consumers will favour products that are available and highly affordable.
- (a) production concept
  - (b) product concept
  - (c) production cost expansion concept
  - (d) marketing concept

7. Newsletters, catalogues and invitations to organisation sponsored events are most closely associated with the marketing mix activity of \_\_\_\_\_
- (a) Pricing
  - (b) Distribution
  - (c) Product development
  - (d) Promotion
8. Marketing buzz means \_\_\_\_\_
- (a) viral marketing
  - (b) virtual marketing
  - (c) De- marketing
  - (d) social marketing
9. Marketing channel that involves no intermediaries to made their products available to final buyers is classified as
- (a) Indirect channel
  - (b) Static channel
  - (c) Direct channel
  - (d) Flexible channel
10. MPR stands for \_\_\_\_\_
- (a) Managing public relations
  - (b) Measuring public relations
  - (c) Monitoring public relations
  - (d) Marketing public relations

**Part B**

(5 × 5 = 25)

Answer **all** questions, choosing either (a) or (b).

11. (a) Mention the ways of constructing an integrated marketing programme.

Or

- (b) Analyse the changing landscape of marketing.

12. (a) Sketch the significance of target market strategies.

Or

- (b) How will you change product positioning?

13. (a) Appraise the classification of services.

Or

- (b) Review the significance of packaging and labelling.

14. (a) Analyse the methods of designing effective message.

Or

- (b) Point out the features of advertising and public relations.

15. (a) Evaluate the types of marketing channel.

Or

- (b) Elucidate the benefits of direct marketing.

**Part C**

(5 × 8 = 40)

Answer **all** questions, choosing either (a) or (b).

16. (a) Describe the factors affecting consumer behaviour.

Or

- (b) Estimate the buyer decision process.

17. (a) Explain the impact of emotional benefits.

Or

- (b) List out the types of market research.

18. (a) Examine the steps involved in product life cycle.

Or

- (b) Justify the importance of product mix decisions.

19. (a) Categories the advantages of promotion mix strategies.

Or

- (b) Illustrate the steps involved in personal selling.

20. (a) Enumerate the emerging consumer trends in the global business.

Or

(b) Represent the levels of service and corporate retailing.

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**C-8031**

**Sub. Code**

**30122/30222**

**M.B.A. DEGREE EXAMINATION, APRIL 2026.**

**Second Semester**

**Common for Business Analytics/Digital Marketing and  
E-Commerce**

**HUMAN RESOURCE MANAGEMENT**

**(2023 onwards)**

Duration : 3 Hours

Maximum : 75 Marks

**Part A**

(10 × 1 = 10)

Answer **all** questions.

1. Human resource management emphasis \_\_\_\_\_
  - (a) Development of people
  - (b) Punishment of people
  - (c) Adoption of people
  - (d) None of these
  
2. Following are the characteristics of HRM except
  - (a) Pervasive function
  - (b) Inter disciplinary function
  - (c) Integrating mechanism
  - (d) Job oriented
  
3. Job analysis is a systematic procedure for securing and reporting Information defining a \_\_\_\_\_
  - (a) Specific job                      (b) Specific product
  - (c) Specific service                (d) All of these

4. TQM's major emphasis is on \_\_\_\_\_
- (a) Product quality
  - (b) Company profitability
  - (c) Customer delight
  - (d) Employee training
5. Which of the following is not a method of on-the-job training?
- (a) Job rotation
  - (b) Mentoring
  - (c) Lectures
  - (d) Apprenticeship
6. \_\_\_\_\_ is a systematic and planned introduction of employees to their jobs, their co-workers the organization
- (a) Job evaluation
  - (b) Investiture orientation
  - (c) Orientation
  - (d) Placement
7. Compensation can be
- (a) Monetary
  - (b) Non-monetary
  - (c) Both monetary and non-monetary
  - (d) None of the above
8. Wages represents \_\_\_\_\_ rates of pay
- (a) Hourly
  - (b) Daily
  - (c) Weekly
  - (d) Monthly
9. Someone who lives and works in a foreign country is a(n) \_\_\_\_\_
- (a) Expatriate
  - (b) Holiday maker
  - (c) international jet-setter
  - (d) Immigrant

10. HRM as practised by multinational organizations is called
- (a) Global HRM
  - (b) Personnel management practices
  - (c) Domestic HRM
  - (d) International HRM

**Part B**

(5 × 5 = 25)

Answer **all** questions, choosing either (a) or (b).

11. (a) Discuss the role of HRM in an organization.

Or

- (b) Write a short note on e-HRM.

12. (a) Explain HR planning process.

Or

- (b) List out the barriers in effective selection.

13. (a) Write the requisites of an effective orientation.

Or

- (b) What is job evaluation? Analyse the pit falls in job evaluation.

14. (a) State the factors influencing employee remuneration.

Or

- (b) Explain various types of incentive schemes.

15. (a) Analyse the impact of inter-country differences in HRM.

Or

- (b) What are the key challenges faced by migrant workers in the context of international labour relations.

**Part C**

(5 × 8 = 40)

Answer **all** questions, choosing either (a) or (b).

16. (a) Explain HRM models.

Or

(b) Discuss on new organizational forms.

17. (a) Explain recruitment process.

Or

(b) Discuss the role of job analysis in TQM and SHRM.

18. (a) Explain the training process in any organization.

Or

(b) Analyze various methods of performance appraisal.

19. (a) Write the theories of remuneration.

Or

(b) Discuss on various types of employee benefits and services.

20. (a) How can an organization train its employee for international assignments?

Or

(b) Explain the factors influencing compensation of overseas employees.

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**C-8032**

**Sub. Code**

**30123/30223**

**M.B.A. DEGREE EXAMINATION, APRIL 2026.**

**Second Semester**

**FINANCIAL MANAGEMENT**

**(Common for Business Analytics/Digital Marketing &  
E-Commerce)**

**(2023 onwards)**

Duration : 3 Hours

Maximum : 75 Marks

**Section A**

(10 × 1 = 10)

Answer **all** questions.

1. A person who is responsible in a significant way to carryout
  - (a) Treasurer
  - (b) Controller
  - (c) Financial manager
  - (d) Cashier
  
2. In his traditional role, the finance manager is responsible for
  - (a) Arrangement of funds
  - (b) Arrangement and effective utilization of funds
  - (c) Management of cash
  - (d) Effective utilization of funds

3. Cost of capital comprises both business risk and
- (a) Operating risk
  - (b) Financial risk
  - (c) Market risk
  - (d) Marketing risk
4. Cost of each component of capital is termed as
- (a) Specific cost
  - (b) Weighted cost
  - (c) Marginal cost
  - (d) Overall cost
5. Under payback method a project would be accepted if the payback period is
- (a) High
  - (b) Low
  - (c) Medium
  - (d) More
6. The return after pay off period is not considered in case of
- (a) Pay back method
  - (b) ARR method
  - (c) IRR method
  - (d) NPV method
7. According to NOI approach the capital structure decision of the firm is
- (a) Relevant
  - (b) Irrelevant
  - (c) Neutral
  - (d) Same
8. According to MM approach, the dividend decision and retained earnings decisions do not influence the
- (a) Book value
  - (b) Market value
  - (c) EPS
  - (d) Face value

9. Net working capital is that portion of a firm's current assets which is financed by
- (a) Long – term funds
  - (b) Short – term finds
  - (c) Spontaneous funds
  - (d) Profit
10. A firm's investment in total current assets refers to
- (a) working capital
  - (b) net working capital
  - (c) gross working capital
  - (d) capital

**Section B**

(5 × 5 = 25)

Answer **all** questions, choosing either (a) or (b).

11. (a) State the importance of time value of money.
- Or
- (b) Explain the relationship of financial management with other areas of management.
12. (a) State the advantages and disadvantages of equity shares.

Or

- (b) What are the components of cost of capital?

13. (a) What are pure discount bonds? How are they valued?

Or

- (b) What as the need and significance of capital budgeting?

14. (a) What are the characteristics of balanced capital structure?

Or

- (b) Critically examine the net income and net operating income approach to capital structure.

15. (a) What are the significance of operating cycle concept?

Or

- (b) What are the benefits of holding inventories?

**Section C**

(5 × 8 = 40)

Answer **all** questions, choosing either (a) or (b).

16. (a) What are the goals of financial management? Discuss them in brief.

Or

- (b) Explain the various types of finance decisions.

17. (a) A company issues 1000 equity shares of Rs. 100 each at a premium of 10%. The company has been paying 20% dividend to equity shareholders for the past five years and expects to maintain the same in the future also. Compute the cost of equity capital. Will it make any difference if the market price of equity share is Rs.160?

Or

(b) Explain the sources from which a large sized industrial enterprises can raise capital for its various requirements.

18. (a) Explain in details the method of valuing an ordinary share.

Or

(b) X Ltd is contemplating the purchase of a machine. The machine 'A' and 'B' are available each costing Rs. 1,20,000, The company uses discount rate of 8% for comparing profitability of projects. Earning after taxation and before depreciation are expected to be a below :

Year	Machine A Rs.	Machine B Rs.	PV factors 8%
1	30,000	20,000	0.926
2	40,000	50,000	0.857
3	40,000	40,000	0.794
4	30,000	40,000	0.735
5	20,000	10,000	0.681

Decide which machine would be more profitable. Apply profitability Index Method.

19. (a) Give a critical appraisal of the traditional approach and the Modigliani – miller approach to the problems of capital structure.

Or

(b) X company earns Rs. 5 per share, is capitalised at a rate of 10% and has a rate of return on investment of 18%.

Accounting to walter's formulae, what should be the price per share at 25% dividend payout? Is this the optimum payout ratio according to walter? If not, what will be the optimum payout ratio and the price of share at this payout.

20. (a) Explain the various cash management models.

Or

(b) Explain various factors influencing working capital.

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**C-8033**

**Sub. Code**

**30124**

**M.B.A. DEGREE EXAMINATION, APRIL 2026.**

**Second Semester**

**Business Analytics**

**PROJECT MANAGEMENT AND BUDGETING**

**(2023 onwards)**

Duration : 3 Hours

Maximum : 75 Marks

**Part A**

(10 × 1 = 10)

Answer **all** questions.

1. A project is
  - (a) A routine process
  - (b) A temporary endeavour with a specific goal
  - (c) A long-term employment
  - (d) A business entity
2. The role of a project manager includes
  - (a) Only supervision
  - (b) Execution without planning
  - (c) Planning, execution, monitoring
  - (d) Resource only management
3. Which of the following is a part of the project environment?
  - (a) Political stability
  - (b) Organizational culture
  - (c) Stakeholders
  - (d) All of the above

4. BOT stands for
  - (a) Build On Timeline
  - (b) Buy Operate Transfer
  - (c) Build Operate Transfer
  - (d) Business Operating Tools
5. The document that outlines the project's vision and goals is
  - (a) Scope Statement
  - (b) Vision Document
  - (c) Risk Matrix
  - (d) Gantt Chart
6. A stakeholder is
  - (a) A project sponsor
  - (b) A government body
  - (c) Anyone impacted by the project
  - (d) Only the project team
7. Which of these models is not a project delivery model?
  - (a) BOLT
  - (b) BOO
  - (c) CRM
  - (d) BOT
8. What is the purpose of the Work Breakdown Structure (WBS)?
  - (a) To increase project costs
  - (b) To break down communication
  - (c) To divide project into manageable sections
  - (d) To avoid documentation
9. Effective communication planning includes
  - (a) Responsibility matrix only
  - (b) One-way interaction
  - (c) Stakeholder identification and channel selection
  - (d) Ignoring feedback

10. Project closure involves
- (a) Monitoring only
  - (b) Procurement continuation
  - (c) Completion of deliverables
  - (d) Delaying resource release

**Part B**

(5 × 5 = 25)

Answer **all** questions, choosing either (a) or (b).

11. (a) Define project management. List its key characteristics.

Or

- (b) Describe the project management process with a neat diagram.

12. (a) Explain the different stages of the project life cycle.

Or

- (b) Discuss the leadership role of a project manager in managing stakeholders.

13. (a) Write a short note on Vision Document and Statement of Work.

Or

- (b) Explain the concept of Work Breakdown Structure (WBS) and its importance.

14. (a) Discuss the features and benefits of Build-Operate-Transfer (BOT) and BOO models.

Or

- (b) Explain how project managers handle team dynamics during project execution.

15. (a) Describe the monitoring and controlling process in a global project environment.

Or

- (b) Write short notes on Integrated Change Control and Project Procurement Administration.

**Part C**

(5 × 8 = 40)

Answer **all** questions, choosing either (a) or (b).

16. (a) Trace the history and evolution of project management. Why is it a critical career skill today?

Or

- (b) Explain in detail the project scope definition process with examples.

17. (a) Discuss the organizational structures in project management and their influence on project outcomes.

Or

- (b) Analyze how project managers should lead Public Private Partnership (PPP) projects.

18. (a) Explain the entire project initiation and planning process with steps.

Or

- (b) Discuss project communication planning and responsibility matrix with an example.

19. (a) What is project execution? Elaborate on directing the project work and motivating teams.

Or

- (b) Write an essay on managing stakeholder expectations and collaborative problem-solving.

20. (a) Discuss the phases of project closure and tools used in monitoring.

Or

- (b) Explain how scheduling and budgeting are managed in a global business environment.

**C-8034**

**Sub. Code**

**30125**

**M.B.A. DEGREE EXAMINATION, APRIL 2026.**

**Second Semester**

**Business Analytics**

**FUNDAMENTALS OF DIGITAL MARKETING**

**(2023 onwards)**

Duration : 3 Hours

Maximum : 75 Marks

**Part A**

(10 × 1 = 10)

Answer **all** questions.

1. Optimising a campaign entail
  - (a) Ignoring results
  - (b) Increasing ad costs blindly
  - (c) Making data-driven adjustments
  - (d) Using random keywords
2. Digital branding adds business value by:
  - (a) Reducing product quality
  - (b) Limiting customer interaction
  - (c) Building brand recognition
  - (d) Avoiding customer feedback
3. A content strategy includes:
  - (a) Ad cost planning
  - (b) Salesforce hiring
  - (c) Planning, creation, and distribution of content
  - (d) Only social media posting

4. SEO helps in:
  - (a) Reducing website loading speed
  - (b) Generating traffic from search engines
  - (c) Making websites private
  - (d) Decreasing visibility
  
5. CGC plays a major role in:
  - (a) Ignoring consumer feedback
  - (b) Reducing engagement
  - (c) Building brand trust
  - (d) Avoiding transparency
  
6. A successful DIY advertising campaign relies on:
  - (a) Low user participation
  - (b) Consumer creativity
  - (c) Ignoring audience
  - (d) High professional ad cost
  
7. In gamification, leaderboards are primarily used to encourage:
  - (a) Secrecy
  - (b) Competition
  - (c) Complaints
  - (d) Feedback removal
  
8. Gamevertising differs from advergaming in that it focuses more on:
  - (a) Non-interactive ads
  - (b) Branded games as core marketing tools
  - (c) Print-based outreach
  - (d) Time-based pricing

9. Interpreting a media scenario involves understanding:
- (a) The fixed path of events
  - (b) One successful model
  - (c) Alternative outcomes and strategic responses
  - (d) Budget restrictions only
10. Media fragmentation refers to:
- (a) Centralized TV channels
  - (b) Limited content choices
  - (c) A wide variety of content across multiple platforms
  - (d) Print-only access

**Part B**

(5 × 5 = 25)

Answer **all** questions, choosing either (a) or (b).

11. (a) Describe different targeting techniques used in digital advertising. How does precise targeting improve campaign outcomes?

Or

- (b) How does digital branding contribute to overall business value? Illustrate with examples related to brand awareness, loyalty, and sales.

12. (a) Describe the key elements of writing persuasive content messages. How can brands ensure that their messaging aligns with audience needs?

Or

- (b) What is a content audit? Describe the steps involved and explain how it helps improve the content marketing strategy.

13. (a) Briefly discuss the benefits and challenges of using DIY advertising for a brand.

Or

- (b) Explain the four building blocks of co-creation: Transparency, Access, Dialogue, and Risk-Benefits.

14. (a) Discuss how gamification and the Fun Theory contribute to behavioral change in branding and advertising.

Or

- (b) Evaluate the effectiveness of gamevertising in creating long-term brand engagement among young consumers.

15. (a) Discuss how changes in distribution channels and devices have impacted media accessibility and mobility.

Or

- (b) Explain how increasing bandwidth is transforming the types of media content being created and consumed.

**Part C**

(5 × 8 = 40)

Answer **all** questions, choosing either (a) or (b).

16. (a) Explain the importance of identifying and understanding the target audience in digital branding. How does it influence content strategy, ad format selection, and overall campaign effectiveness?

Or

- (b) Discuss the factors influencing the preparation of a digital branding campaign budget. How can performance-based budgeting help optimize cost and outcomes?

17. (a) Explain the process of identifying prospects in content marketing. How does understanding audience personas help in delivering targeted and relevant content?

Or

- (b) Discuss how effective content marketing strategies drive traffic to websites or landing pages. Explain the roles of SEO, backlinks, content freshness, and cross-promotion.
18. (a) Evaluate the role of Consumer Generated Content in shaping brand perception in the digital age. How can companies effectively manage and utilize CGC?

Or

- (b) Discuss the advantages and limitations of DIY advertising from the perspective of both consumers and companies. How can brands overcome the challenges?
19. (a) Critically evaluate the psychological impact of the Fun Theory in marketing. How can brands apply this theory to enhance user experience and engagement?

Or

- (b) Explain the role of gamification in building brand identity. Use examples from at least two companies to support your answer.

20. (a) Analyze the transformation of content distribution through multiple channels and devices. How has mobility changed audience behavior and media planning?

Or

- (b) Differentiate between globalization and localization in media strategies. Explain how media companies balance both to expand their reach while respecting local preferences.
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**C-8035**

**Sub. Code**

**30126**

**M.B.A. DEGREE EXAMINATION, APRIL 2026.**

**Second Semester**

**Business Analytics**

**FUNDAMENTALS OF BUSINESS ANALYTICS**

**(2023 onwards)**

Duration : 3 Hours

Maximum : 75 Marks

**Part A**

(10 × 1 = 10)

Answer **all** questions.

1. Business Analytics primarily helps organizations in:
  - (a) Marketing strategies
  - (b) Employee engagement
  - (c) Data-driven decision making
  - (d) Recruitment
2. ERP stands for:
  - (a) Enterprise Resource Planning
  - (b) Enterprise Risk Profile
  - (c) Electronic Resource Portal
  - (d) Enhanced Resource Program
3. OLTP systems are optimized for:
  - (a) Complex queries
  - (b) Transactional processing
  - (c) Forecasting
  - (d) Data mining
4. Which of the following is an OLAP operation?
  - (a) Slicing
  - (b) Indexing
  - (c) Cleaning
  - (d) Tokenizing

5. EIS stands for:
  - (a) Executive Information System
  - (b) Enterprise Inference Software
  - (c) External Information Server
  - (d) E-commerce Information System
6. A dashboard is used in BI to:
  - (a) Run transactions
  - (b) Visualize key metrics
  - (c) Schedule backups
  - (d) Encrypt data
7. A Data Warehouse is:
  - (a) An operational database
  - (b) A volatile system
  - (c) A NoSQL server
  - (d) A subject-oriented, integrated data store
8. Star schema includes:
  - (a) Only dimension tables
  - (b) Only fact tables
  - (c) One fact and many dimension tables
  - (d) Only normalized tables
9. KPI stands for:
  - (a) Key Project Interface
  - (b) Knowledge Performance Index
  - (c) Known Planning Indicator
  - (d) Key Performance Indicator

10. Balanced Scorecard is used for:
- (a) Transaction tracking
  - (b) Decision documentation
  - (c) Strategy performance measurement
  - (d) Database indexing

**Part B**

(5 × 5 = 25)

Answer **all** questions, choosing either (a) or (b).

11. (a) Explain the key purposes of using IT in Business.
- Or
- (b) Describe any two Internet-ready IT applications used in business.
12. (a) Write a short note on OLTP vs OLAP.
- Or
- (b) Describe the role of OLAP tools in BI Architecture.
13. (a) Explain the BI Component Framework.
- Or
- (b) Discuss popular BI tools and their features.
14. (a) Briefly describe Kimball's and Inmon's approach to data warehousing.
- Or
- (b) What is data integration? Explain with an example.
15. (a) Explain the Balanced Scorecard.
- Or
- (b) List and explain three key components of performance measurement.

**Part C**

(5 × 8 = 40)

Answer **all** questions, choosing either (a) or (b).

16. (a) Discuss characteristics of enterprise applications such as ERP and CRM in business analytics.
- Or
- (b) Explain the role of Bespoke IT applications and information users in a business organization.

17. (a) Explain the different OLAP architectures and multidimensional OLAP operations.

Or

(b) Discuss how ERP data is leveraged in OLAP for business analytics.

18. (a) Discuss the evolution and components of Business Intelligence in detail.

Or

(b) Explain the concept of BI Value Chain with examples.

19. (a) What are dimensional models? Explain the types of data modeling with diagrams.

Or

(b) Discuss data integration technologies and the role of data quality and metadata.

20. (a) Case Study:

An e-commerce company wants to improve its decision-making using dashboards and KPI tracking. They currently use Excel but want to move to a more BI-driven system. As a business analyst, suggest:

- Key KPIs to track
- Dashboard design recommendations
- Benefits of using BI tools over spreadsheets

Or

(b) Explain the reporting perspectives in enterprise reporting across different business levels.

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**C-8036**

**Sub. Code**

**30127**

**M.B.A. DEGREE EXAMINATION, APRIL 2026.**

**Second Semester**

**Business Analytics**

**CONSUMER BEHAVIOUR**

**(2023 onwards)**

Duration : 3 Hours

Maximum : 75 Marks

**Part A**

(10 × 1 = 10)

Answer **all** questions.

1. Which of the following is NOT a level of consumer decision-making?
  - (a) Extensive decision-making
  - (b) Limited decision-making
  - (c) Routine decision-making
  - (d) Professional decision-making
  
2. Which model is commonly used to understand how consumers make purchase decisions?
  - (a) SWOT Model
  - (b) BCG Matrix
  - (c) Consumer Decision-Making Model
  - (d) Porter's Five Forces

3. Which of the following factors does NOT influence consumer behaviour directly?
  - (a) Culture
  - (b) Lifestyles
  - (c) Celebrity endorsements
  - (d) Weather forecast
  
4. The Customer Loyalty Ladder describes:
  - (a) The stages of a product lifecycle
  - (b) The hierarchy of consumer needs
  - (c) The progression of customers from prospects to advocates
  - (d) The flow of goods in a supply chain
  
5. Which of these is a psychographic variable?
  - (a) Age
  - (b) Gender
  - (c) Occupation
  - (d) Lifestyle
  
6. Attitudinal loyalty refers to:
  - (a) Loyalty based on repeated purchases only
  - (b) Loyalty due to high switching costs
  - (c) Emotional attachment or favorable attitude toward the brand
  - (d) Loyalty due to a lack of alternatives

7. The Rai Srivastava model is related to:
- (a) Product differentiation
  - (b) Brand positioning
  - (c) Customer loyalty formation
  - (d) Pricing strategy
8. Which industry is not explicitly mentioned in the syllabus for Customer Loyalty application?
- (a) Retail
  - (b) Banking
  - (c) Education
  - (d) Aviation
9. Organizational Buying Behaviour is primarily concerned with:
- (a) Individual purchasing habits
  - (b) Emotional aspects of buying
  - (c) Buying decisions in businesses and institutions
  - (d) Impulse buying of luxury goods
10. What is the primary role of reference groups in consumer behaviour?
- (a) Price negotiation
  - (b) Influencing brand logo design
  - (c) Influencing purchase decisions through social influence
  - (d) Creating supply chain partnerships

**Part B**

(5 × 5 = 25)

Answer **all** questions, choosing either (a) or (b).

11. (a) Explain the consumer decision process with a diagram.

Or

- (b) Discuss the changing patterns in Indian consumer behaviour.

12. (a) Write a short note on psychological and social factors affecting consumer behaviour.

Or

- (b) Explain how demographics and psychographics influence buying behaviour.

13. (a) Define perception. How does it impact consumer decision.

Or

- (b) Explain any two theories of learning in consumer behaviour.

14. (a) Describe the different types of customer loyalty.

Or

- (b) Explain the Rai Srivastava model of customer loyalty formation.

15. (a) Elaborate customer engagement And why is it important for marketers?

Or

- (b) Describe the role of service loyalty in the banking and hospitality sectors.

**Part C**

(5 × 8 = 40)

Answer **all** questions, choosing either (a) or (b).

16. (a) Evaluate the different types of consumer decision making with suitable examples. How do these influence marketing strategies?

Or

- (b) Design a decision making model for a first time buyer of a high involvement product like a car or smartphone.

17. (a) Critically examine the role of internal influence like beliefs, values and attitudes in shaping consumer buying behaviour.

Or

- (b) Create a consumer profile based on psychographics and personality traits for a brand of your choice. Explain how it helps in positioning the product.

18. (a) Evaluate the impact of culture and subculture on consumer behaviour in multicultural country like India.

Or

- (b) Develop a marketing strategy for a global brand looking to enter the Indian market, considering cross-cultural and core value differences.

19. (a) Design a customer loyalty program that incorporates behavioural, attitudinal and cognitive loyalty aspects for an e-commerce brand.

Or

- (b) Critically evaluate the Rairivastava model of customer loyalty formation. How does it help marketers improve loyalty outcomes?

20. (a) Evaluate the application of customer loyalty models and measurement tools in the banking and hospitality sectors with real-world examples.

Or

- (b) Create a relationship marketing framework for a company aiming to enhance customer engagement and long-term loyalty across sectors.
-

**C-8037**

**Sub. Code**

**30131**

**M.B.A. DEGREE EXAMINATION, APRIL 2026.**

**Third Semester**

**Business Analytics**

**DATA WAREHOUSING AND DBMS**

**(2023 onwards)**

Duration : 3 Hours

Maximum : 75 Marks

**Part A**

(10 × 1 = 10)

Answer **all** questions.

1. What is the primary advantage of distributed databases?
  - (a) Centralized control
  - (b) Fault tolerance
  - (c) High latency
  - (d) Single point of failure
  
2. What is the primary function of a DBMS?
  - (a) Data storage and retrieval
  - (b) Word processing
  - (c) Network management
  - (d) Graphics rendering

3. Which of the following best describes a data warehouse?
  - (a) OLTP system
  - (b) Historical and analytical data repository
  - (c) Spreadsheet application
  - (d) Real-time processing system
  
4. What type of analysis is typically performed in a data warehouse?
  - (a) Transactional analysis
  - (b) Operational analysis
  - (c) Historical and trend analysis
  - (d) Real-time analysis
  
5. What is data cleansing in the ETL process?
  - (a) Removing duplicate and inconsistent data
  - (b) Loading data into the warehouse
  - (c) Extracting data from source systems
  - (d) Transforming data into a star schema
  
6. Which tool is widely used for ETL processes?
  - (a) Tableau
  - (b) Informatica
  - (c) MS Excel
  - (d) SQL Server Reporting Services (SSRS)

7. Which of the following is a key category of users in a data warehouse?
  - (a) Data analysts
  - (b) Database administrators
  - (c) Business executives
  - (d) All of the above
  
8. What is the primary objective of data mining in a data warehouse?
  - (a) To store large volumes of data
  - (b) To clean and transform data
  - (c) To extract meaningful patterns and insights from data
  - (d) To execute transactional queries
  
9. What is typically involved in the growth phase of a data warehouse?
  - (a) Reducing data volumes
  - (b) Expanding storage capacity and computational power
  - (c) Storing data in unstructured formats
  - (d) Disabling reporting capabilities for speed
  
10. How do BI tools typically interact with a data warehouse?
  - (a) They directly modify the data stored in the warehouse
  - (b) They query and analyze the data stored in the warehouse for reporting purposes
  - (c) They manage the ETL processes
  - (d) They store raw transactional data

**Part B**

(5 × 5 = 25)

Answer **all** questions, choosing either (a) or (b).

11. (a) Compare and contrast parallel and distributed databases.

Or

- (b) Describe the concept of object-oriented databases and their applications.

12. (a) What is the role of data governance in managing a data warehouse?

Or

- (b) Discuss the trends in Data warehousing?

13. (a) What are surrogate keys, and why are they used in dimensional modeling?

Or

- (b) Discuss techniques for ensuring high data quality in data warehousing.

14. (a) State the benefits of integrating data mining with OLAP in a data warehouse?

Or

- (b) How does a data warehouse support strategic decision-making in businesses?

15. (a) Describe the lifecycle of a data warehouse from planning to maintenance.

Or

- (b) Explain the relationship between data warehousing and business intelligence (BI).

**Part C**

(5 × 8 = 40)

Answer **all** questions, choosing either (a) or (b).

16. (a) Outline common security challenges in databases and measures to ensure data integrity.

Or

- (b) Explain the concept of entity-relationship (ER) modeling and its importance in database design.

17. (a) Define metadata in the context of data warehousing and discuss its importance.

Or

- (b) Explain the steps involved in building a data warehouse.

18. (a) Discuss the role of data staging areas in the data preparation process for data warehousing.

Or

- (b) Explain the importance of data validation and cleansing in the ETL process.

19. (a) Explain how visualization techniques, such as heat maps and scatter plots, enhance insights from data warehouse analysis.

Or

(b) How do modern trends such as cloud computing and big data impact data warehouse analysis?

20. (a) Discuss the importance of scalability in data warehouse implementation and maintenance.

Or

(b) Explain the role of data governance in maintaining the quality and integrity of a data warehouse.

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5. What does return keyword do in a function?
  - (a) Exits a loop
  - (b) Exits the function and optionally returns a value
  - (c) Ends the program
  - (d) Declares a global variable
  
6. What is the output of range (3)?
  - (a) [1, 2, 3]
  - (b) [1, 2, 3, 4]
  - (c) [0, 1, 2, 3]
  - (d) [0, 1, 2]
  
7. Which method is used to calculate the square root of a number?
  - (a) math.sqrt()
  - (b) sqrt()
  - (c) power()
  - (d) math.pow()
  
8. What is a list comprehension in Python?
  - (a) A method to create nested lists
  - (b) A compact way to create and filter lists
  - (c) A way to sort lists
  - (d) A type of dictionary
  
9. Which module is used for numerical computations in Python?
  - (a) pandas
  - (b) NumPy
  - (c) math
  - (d) os
  
10. How do you import the Pandas library?
  - (a) import pandas
  - (b) import pd
  - (c) from pandas import
  - (d) import PandasLib

**Part B**

(5 × 5 = 25)

Answer **all** the questions, choosing either (a) or (b).

11. (a) Differentiate between interactive and script modes in Python.

Or

- (b) Explain the purpose of arithmetic operators in Python.

12. (a) Write a short note on Python's interactive mode.

Or

- (b) Discuss the advantages of using functions in Python for modular programming.

13. (a) Describe the overview of for loop in python.

Or

- (b) Narrate the use of local and global variables in Python.

14. (a) Discuss the concept of aliasing in Python lists.

Or

- (b) Differentiate between lists and tuples in Python.

15. (a) Write a program to create and write data to a text file.

Or

- (b) Describe a short note on filtering a Pandas Data Frame.

**Part C**

(5 × 8 = 40)

Answer **all** the questions, choosing either (a) or (b).

16. (a) Explain Boolean expressions with a program that evaluates logical conditions.

Or

- (b) Discuss the importance of comments and debugging in Python with examples.

17. (a) Write a Python program to demonstrate the flow of execution in functions.

Or

- (b) Discuss the different types of arguments in Python functions with examples.

18. (a) Write a Python program to reverse a string using recursion.

Or

- (b) Explain if statements and if-elif-else statements with examples.

19. (a) Illustrate a Python program to sort a list using the insertion sort algorithm.

Or

- (b) Demonstrate the use of a nested list with python program.

20. (a) State the Python program to read data from a CSV file and analyze it using Pandas.

Or

- (b) Discuss the creation of Pandas Series and perform arithmetic operations on them.

**C-8039**

**Sub. Code**

**30133**

**M.B.A. DEGREE EXAMINATION, APRIL 2026.**

**Third Semester**

**Business Analytics**

**MACHINE LEARNING**

**(2023 onwards)**

Duration : 3 Hours

Maximum : 75 Marks

**Part A**

(10 × 1 = 10)

Answer **all** questions.

1. Logistic regression is suitable for:
  - (a) Predicting continuous outcomes
  - (b) Solving classification problems
  - (c) Clustering unlabelled data
  - (d) Dimensionality reduction
  
2. A Bayesian Belief Network (BBN) is:
  - (a) A probabilistic graphical model
  - (b) A supervised learning algorithm
  - (c) A clustering algorithm
  - (d) A type of linear regression model

3. In KNN, the choice of K affects:
  - (a) Computational complexity only
  - (b) Decision boundary only
  - (c) Both decision boundary and classification accuracy
  - (d) None of the above
  
4. In multi-class SVM, which of the following techniques is commonly used for generalization?
  - (a) One-vs-All (OVA)
  - (b) One-vs-One (OVO)
  - (c) Both (a) and (b)
  - (d) None of the above
  
5. What is the main goal of the K-means clustering algorithm?
  - (a) To find hierarchical clusters in data
  - (b) To partition data into k clusters based on similarity
  - (c) To perform dimensionality reduction
  - (d) To calculate principal components
  
6. How does Fuzzy K-means differ from standard K-means clustering?
  - (a) It assigns a data point to multiple clusters with probabilities
  - (b) It always produces hierarchical clusters
  - (c) It reduces data dimensionality
  - (d) It optimizes independent components

7. In time series prediction using RNN, what does the model learn?
- (a) Non-linear mappings of features
  - (b) Temporal patterns and dependencies in the data
  - (c) Spatial relationships in the data
  - (d) Cluster memberships of data points
8. What is a drawback of a simple RNN compared to LSTM?
- (a) High computational cost
  - (b) Vanishing gradient problem
  - (c) Cannot handle sequential data
  - (d) Over fitting
9. Boosting differs from bagging in that:
- (a) Boosting focuses on reducing bias while bagging reduces variance
  - (b) Boosting trains all learners in parallel.
  - (c) Bagging assigns weights to the data points based on their difficulty
  - (d) Bagging combines predictions by weighted voting.
10. Which of the following is NOT a model combination scheme?
- (a) Voting
  - (b) Bagging
  - (c) Regularization
  - (d) Boosting

**Part B**

(5 × 5 = 25)

Answer **all** questions, choosing either (a) or (b).

11. (a) What is a Bayesian belief network? Explain its components and structure.

Or

- (b) Differentiate between univariate and multivariate normal densities.

12. (a) What is the significance of the back propagation algorithm in training neural networks? Briefly describe the steps involved.

Or

- (b) List the advantages and limitations of using the k-NN algorithm for classification tasks.

13. (a) What is the objective of Principal Component Analysis (PCA)? Explain its role in dimensionality reduction.

Or

- (b) Explain the importance of class separability in Linear Discriminant Analysis.

14. (a) Explain the role of convolutional layers and pooling layers in CNNs.

Or

- (b) Explain the role of the following layers in a CNN:  
(i) Convolutional Layer (ii) Pooling Layer (iii) Fully Connected Layer

15. (a) How does varying training data subset contribute to generating diverse learners?

Or

- (b) Explain the concept of model combination schemes in ensemble learning.

**Part C**

(5 × 8 = 40)

Answer **all** questions, choosing either (a) or (b).

16. (a) Compare supervised learning and unsupervised learning with real-world applications.

Or

- (b) Describe the steps involved in building a logistic regression model for binary classification.

17. (a) Compare linear and non-linear SVMs. Provide an example of when a non-linear SVM is required.

Or

- (b) Describe the steps involved in building a Random Forest model.

18. (a) Highlight the assumptions made by ICA when extracting independent components.

Or

- (b) Explain the working of the K-means clustering algorithm. How is the value of "k" determined?

19. (a) Describe the role of Long Short-Term Memory (LSTM) in addressing the limitations of standard RNNs.

Or

- (b) Discuss the use of RNNs in time series prediction and provide an example.

20. (a) Describe the concept of error-correcting output codes (ECOC) and its application in multi-class classification.

Or

- (b) Compare the strengths and limitations of bagging and boosting.
-

**C-8040**

**Sub. Code**

**30134/30234/  
31039C**

**M.B.A. DEGREE EXAMINATION, APRIL 2026.**

**Third Semester**

**Common for Business Analytics/Digital Marketing  
& E. Commerce/Industry Integrated**

**BUSINESS LAW AND ETHICS**

**(2023 onwards)**

Duration : 3 Hours

Maximum : 75 Marks

**Part A**

(10 × 1 = 10)

Answer **all** questions.

1. Which of the following is the primary feature of the Indian Contract Act, 1872?
  - (a) The Act only applies to business contracts
  - (b) The Act is applicable only to written contracts
  - (c) The Act applies to all contracts related to both personal and commercial transactions
  - (d) The Act applies only to contracts formed through mutual agreement
  
2. Under the Sale of Goods Act, the term "goods" includes:
  - (a) All movable property
  - (b) Only movable property that is tangible
  - (c) All goods except stock-in-trade
  - (d) All movable property, including stock-in-trade, growing crops, etc.

3. Which of the following is not an essential characteristic of a negotiable instrument?
  - (a) Transferability
  - (b) Unconditional order to pay
  - (c) Can be transferred only once
  - (d) Payable on demand or at a fixed time
  
4. What is the first step for a consumer if they want to file a complaint under the Consumer Protection Act, 1986?
  - (a) Approach a consumer court directly
  - (b) Approach the manufacturer or service provider for resolution
  - (c) File a complaint to the National Consumer Disputes Redressal Commission
  - (d) Approach the police
  
5. Which philosopher is associated with the concept of "Virtue Ethics" in business, emphasizing the importance of moral character and living a balanced life?
  - (a) Karl Marx
  - (b) Aristotle
  - (c) Niccoló Machiavelli
  - (d) Albert Z
  
6. The significance of business ethics includes:
  - (a) Improving employee relations
  - (b) Creating a positive public image
  - (c) Enhancing long-term profitability
  - (d) All of the above

7. Which of the following is a key factor that complicates ethical decision-making in organizations?
- (a) Clear and consistent ethical guidelines
  - (b) Conflicting values and interests of stakeholders
  - (c) A focus on long-term goals
  - (d) A strong corporate culture of ethics
8. Which of the following is a legitimate source of power in an organization?
- (a) Referent power
  - (b) Coercive power
  - (c) Reward power
  - (d) Positional power
9. Which organization oversees the enforcement of trade rules between nations?
- (a) The World Trade Organization (WTO)
  - (b) The International Monetary Fund (IME)
  - (c) The United Nations
  - (d) The World Bank
10. A key ethical issue in HRM is :
- (a) Insider trading
  - (b) Ensuring employee privacy
  - (c) Deceptive advertising
  - (d) Market manipulation

**Part B**

(5 × 5 = 25)

Answer **all** questions, choosing either (a) or (b).

11. (a) Differentiate between a contract of indemnity and a contract of guarantee.

Or

- (b) Analyze the performance of a contract under the Sale of Goods Act, 1930.

12. (a) Explain the legal obligations of medical service providers under consumer protection laws.

Or

- (b) Compare and contrast the legal protections offered under patent law and trademark law ?

13. (a) How does religion influence ethics in a business context?

Or

- (b) What are the consequences of unethical practices on a company's reputation?

14. (a) Define coalitions and describe their impact on ethical decision-making.

Or

- (b) Differentiate between codes of ethics and codes of conduct.

15. (a) What are the ethical considerations in investment decision-making?

Or

- (b) Why are disclosure norms important in financial reporting?

**Part C**

(5 × 8 = 40)

Answer **all** questions, choosing either (a) or (b).

16. (a) What is meant by free consent? Discuss the factors affecting free consent in contracts.

Or

- (b) Explain the essential elements of a valid contract under the Indian Contract Act, 1872.

17. (a) Examine the role of consumer courts in resolving disputes under the Consumer Protection Act, 1986?

Or

- (b) Analyze the types of negotiable instruments recognized under the Negotiable Instruments Act, 1881.

18. (a) Explain the nature and importance of business ethics and values in modern organizations.

Or

- (b) Analyze the application of Karl Marx's philosophy in addressing economic inequality in business ethics.

19. (a) Discuss the relationship between laws and ethics, and explain how laws can guide moral choices.

Or

- (b) Outline the role of the Government of India in enforcing ethical behavior in business practices.

20. (a) Analyze the importance of business laws for global businesses in ensuring compliance and fair practices.

Or

- (b) Explain the role of ethics in production and operations management in global supply chains.
-

**C-8041**

**Sub. Code**

**30141/31048A**

**M.B.A. DEGREE EXAMINATION, APRIL 2026.**

**Fourth Semester**

**DATA VISUALIZATION**

**Common for Business Analytics/ Industry Integrated**

**(2023 onwards)**

Duration : 3 Hours

Maximum : 75 Marks

**Part A**

(10 × 1 = 10)

Answer **all** questions.

1. Data visualization primarily aims to:
  - (a) Hide data
  - (b) Confuse users
  - (c) Improve clarity and understanding
  - (d) Limit access
  
2. Which is NOT a visualization design objective?
  - (a) Purpose
  - (b) Tone
  - (c) Speed of light
  - (d) Function
  
3. Scatter plots are mainly used to show:
  - (a) Hierarchies
  - (b) Correlations
  - (c) Text data
  - (d) None of the above

4. Infographics combine:
- (a) Text and visuals
  - (b) Only text
  - (c) Only images
  - (d) None
5. Which tool helps find data online?
- (a) Browser
  - (b) Data acquisition tools
  - (c) Notepad
  - (d) Calculator
6. Regular expressions (regexps) are used for:
- (a) Graphing
  - (b) Parsing text
  - (c) Drawing maps
  - (d) Animations
7. Motion and transition add:
- (a) Static views
  - (b) Interactivity
  - (c) Irrelevance
  - (d) Confusion
8. Geo mapping represents:
- (a) Sound
  - (b) Location data
  - (c) Random text
  - (d) Equations
9. Tableau is primarily used for:
- (a) Word processing
  - (b) Data visualization
  - (c) Gaming
  - (d) Email

10. Power BI supports:
- (a) Data connections
  - (b) Data transformation
  - (c) Advanced visualization
  - (d) All of the above

**Part B**

(5 × 5 = 25)

Answer **all** questions, choosing either (a) or (b).

11. (a) Explain the purpose and function of data visualization.

Or

- (b) Discuss the seven stages of data visualization.

12. (a) Describe mapping and time series visualization.

Or

- (b) Explain trees, hierarchies, and recursion.

13. (a) Describe data acquisition techniques.

Or

- (b) Explain parsing data with regular expressions.

14. (a) Explain scales and axes in interactive visualization.

Or

- (b) Discuss transition and motion in visualization.

15. (a) Explain Tableau interface and basic chart types.

Or

- (b) Discuss Power BI interface and data transformation.

**Part C**

(5 × 8 = 40)

Answer **all** questions, choosing either (a) or (b).

16. (a) Describe the methodology of data visualization in detail.

Or

- (b) Discuss key factors in visualization design with examples.

17. (a) Explain connections, correlations and scatter plot maps.

Or

- (b) Describe networks, graphs, and infographics with use cases.

18. (a) Explain tools for acquiring data from the internet.

Or

- (b) Discuss advanced detective work in data parsing.

19. (a) Explain layouts and geo mapping in interactive visualization.

Or

- (b) Describe interactivity features including exporting and frameworks.

20. (a) Explain Tableau dashboard, stories, and mapping features.

Or

- (b) Discuss advanced data transformation in Power BI.

**C-8042**

**Sub. Code**

**30142**

**M.B.A. DEGREE EXAMINATION, APRIL 2026.**

**Fourth Semester**

**Business Analytics**

**PREDICTIVE MODELLING USING SAS**

**(2023 onwards)**

Duration : 3 Hours

Maximum : 75 Marks

**Part A**

(10 × 1 = 10)

Answer **all** questions.

1. In SAS Enterprise Miner, a “diagram” is used for:
  - (a) Data encryption
  - (b) Model deployment
  - (c) Creating and analyzing models
  - (d) Importing hardware drivers
  
2. Which one is required to define a data source in SAS EM?
  - (a) Flowchart
  - (b) Diagram Node
  - (c) Metadata
  - (d) None of the above
  
3. Decision trees are primarily used for:
  - (a) Neural modeling
  - (b) Rule-based modeling
  - (c) Classification and regression
  - (d) Dimensionality reduction

4. Optimizing complexity in decision trees helps prevent:
  - (a) Underfitting
  - (b) Overfitting
  - (c) Looping
  - (d) Memory errors
5. Neural networks are especially effective when:
  - (a) Data is linear
  - (b) Data is highly structured
  - (c) Data has non-linear patterns
  - (d) Data is missing
6. “Stopped training” refers to:
  - (a) Premature model evaluation
  - (b) Halting training before overfitting
  - (c) Aborting the software
  - (d) Cross-validation step
7. Model fit statistics help in:
  - (a) Data encryption
  - (b) Measuring model performance
  - (c) Merging datasets
  - (d) Generating HTML reports
8. Profit matrices are used to:
  - (a) Generate histograms
  - (b) Create neural networks
  - (c) Evaluate business impact
  - (d) Design logos
9. Ensemble models combine:
  - (a) Tables
  - (b) Charts
  - (c) Multiple models
  - (d) Raw data

10. Surrogate models are used when:
- (a) Main models fail
  - (b) Simpler model approximations are needed
  - (c) Data is in HTML
  - (d) Training is skipped

**Part B**

(5 × 5 = 25)

Answer **all** questions, choosing either (a) or (b).

11. (a) Explain how to create a SAS Enterprise Miner project and library.

Or

- (b) Describe the process of defining and exploring a data source in SAS EM.

12. (a) What are decision trees? How are they cultivated in SAS?

Or

- (b) Explain how complexity of decision trees is optimized.

13. (a) Discuss input selection in neural networks.

Or

- (b) What is stopped training? How does it help in predictive modeling?

14. (a) Write short notes on profit matrices and their role in model evaluation.

Or

- (b) Explain how cluster analysis is used in pattern discovery.

15. (a) Describe the concept and advantages of ensemble models.

Or

- (b) What is categorical input consolidation? Explain with example.

**Part C**

(5 × 8 = 40)

Answer **all** questions, choosing either (a) or (b).

16. (a) Describe the complete process of accessing and assaying prepared data in SAS EM.

Or

- (b) Discuss the role of project, diagram, and data source in SAS Enterprise Miner.

17. (a) Explain the use of diagnostic tools in decision tree models.

Or

- (b) How is overfitting detected and managed in decision trees?

18. (a) Describe the architecture and learning process of a neural network model.

Or

- (b) Discuss any two other modeling tools apart from neural networks.

19. (a) Explain how model fit statistics and statistical graphics help in model assessment.

Or

- (b) How is market basket analysis used for pattern discovery?

20. (a) Explain variable selection techniques and their importance in predictive modeling.

Or

- (b) Describe surrogate models and their application in SAS.



3. VC dimension is used to measure:
  - (a) Loss in neural nets
  - (b) Number of hidden layers
  - (c) Capacity of a model to classify data
  - (d) Speed of convergence
  
4. Which layer in CNN is responsible for feature extraction?
  - (a) Fully connected      (b) Input
  - (c) Convolutional      (d) Output
  
5. GAN stands for:
  - (a) Gradient Activation Network
  - (b) General Adversarial Network
  - (c) Generative Adversarial Network
  - (d) General Artificial Network
  
6. Which activation function is widely used in hidden layers?
  - (a) Sigmoid                      (b) Tanh
  - (c) ReLU                          (d) Softmax
  
7. Which library is commonly used for NLP in Python?
  - (a) NumPy                      (b) OpenCV
  - (c) NLTK                        (d) Keras



12. (a) Enumerate the key parts of a neural network and their functions.

Or

- (b) Describe the working of forward and backward propagation.

13. (a) Define and explain different types of cost functions in neural networks.

Or

- (b) Explain the architecture of a CNN and its working.

14. (a) Write a short note on batch normalization and its importance.

Or

- (b) List any five applications of deep learning in image processing.

15. (a) Explain the concept of Named Entity Recognition (NER) with an example.

Or

- (b) Differentiate between Bag-of-Words and TF-IDF.

**Part C**

(5 × 8 = 40)

Answer **all** questions, choosing either (a) or (b).

16. (a) Discuss in detail the architecture and working of Generative Adversarial Networks (GAN).

Or

- (b) Compare and contrast deep neural networks and convolutional neural networks.

17. (a) Explain the complete process of digit recognition using neural networks with suitable steps.

Or

- (b) Describe the steps involved in object detection using CNN and OpenCV.

18. (a) Write a detailed note on text preprocessing techniques in NLP.

Or

- (b) Explain Recurrent Neural Networks with architecture and an example use-case.

19. (a) Discuss the role of LSTM in sequence modeling.

Or

- (b) Describe different applications of attention models in deep learning.

20. (a) How is sentiment analysis done using recursive neural networks? Explain.

Or

(b) Explain how dialogue generation is performed using LSTM models.

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**C-8044**

**Sub. Code**

**30144**

**M.B.A. DEGREE EXAMINATION, APRIL 2026**

**Fourth Semester**

**Business Analytics**

**DIGITAL STRATEGY PLANNING AND EXECUTION**

**(2023 onwards)**

Duration : 3 Hours

Maximum : 75 Marks

**Part A**

(10 × 1 = 10)

Answer **all** questions.

1. In the context of strategic management, Digital Transformation is best described as:
  - (a) Upgrading all office hardware to the latest models.
  - (b) Moving physical files to a cloud storage system.
  - (c) The strategic alignment of business processes and digital technologies to create new revenue models.
  - (d) Hiring a dedicated IT team to manage software updates.
  
2. When conducting a digital landscape analysis, why is 'social listening' considered a vital part of market research?
  - (a) It allows companies to block negative reviews.
  - (b) It provides real-time insights into consumer sentiment and emerging industry trends.
  - (c) It automates the process of sending promotional emails.
  - (d) It is a cheaper alternative to having a website.

3. Which method of audience segmentation uses behavioral data such as past purchase history and website interactions?
  - (a) Demographic segmentation.
  - (b) Psychographic segmentation.
  - (c) Behavioral segmentation.
  - (d) Geographic segmentation.
  
4. How does “Personalization’ differ from “Customization’ in digital marketing?
  - (a) Personalization is done by the system based on data; customization is done by the user.
  - (b) Personalization is for B2B; customization is for B2C.
  - (c) Personalization requires no data, while customization relies on Big Data.
  - (d) There is no difference; they are interchangeable terms.
  
5. Which of the following is an example of “Social Media Listening”?
  - (a) Posting three times a day on Instagram.
  - (b) Monitoring digital conversations to understand what people are saying about a brand or industry.
  - (c) Paying influencers to promote a new product.
  - (d) Increasing the budget for Facebook ads.
  
6. Search Engine Optimization (SEO) primarily focuses on which type of website traffic?
  - (a) Paid traffic.
  - (b) Organic (unpaid) traffic.
  - (c) Referral traffic from offline print ads.
  - (d) Internal traffic from employees.

7. 'Data-Driven Decision Making' helps a digital strategist avoid which common pitfall?
- (a) Utilizing expensive software.
  - (b) Relying on intuition or "gut feeling" rather than empirical evidence.
  - (c) Sharing reports with the executive board.
  - (d) Collecting too much feedback from customers.
8. If a website has a high "Bounce Rate," it most likely indicates that:
- (a) Users are spending a lot of time reading the content.
  - (b) Users are clicking on many different pages.
  - (c) Visitors are leaving the site after viewing only one page without taking action.
  - (d) The website is successfully converting visitors into customers.
9. Which of the following is a common "Risk Management" strategy in the digital realm?
- (a) Ignoring negative social media comments until they go away.
  - (b) Storing all customer data in an unencrypted public spreadsheet.
  - (c) Developing a 'Crisis Communication Plan' for potential data breaches or PR scandals.
  - (d) Using only one digital channel to avoid complexity.
10. In the execution phase, "Resource Allocation" involves:
- (a) Only the financial budget.
  - (b) Assigning people, technology, and time to specific digital tasks.
  - (c) Hiring external consultants for every task.
  - (d) Automating every single business process to remove human workers.

**Part B**

(5 × 5 = 25)

Answer **all** questions, choosing either (a) or (b).

11. (a) Define Digital Strategy and explain its critical importance in the modern volatile business environment.

Or

- (b) Briefly trace the evolution of digital strategy, from simple web presence to integrated digital ecosystems.

12. (a) Explain how a SWOT Analysis is specifically adapted to evaluate digital channels (e.g., website, social media).

Or

- (b) Define Customer Journey Mapping and identify three key digital touchpoints.

13. (a) Distinguish between Multichannel and Omnichannel strategies with a brief example.

Or

- (b) Summarize the core pillars of an effective Content Marketing Strategy

14. (a) Define Key Performance Indicators (KPIs) and list four relevant KPIs for a lead-generation website.

Or

- (b) What is A/B Testing, and how does it contribute to website optimization?

15. (a) Outline the factors to consider when Allocating Resources between organic and paid digital marketing.

Or

- (b) How do Agile Project Management principles improve the execution of digital campaigns?

**Part C**

(5 × 8 = 40)

Answer **all** questions, choosing either (a) or (b).

16. (a) Discuss the framework for integrating digital strategy into an organization's overall business strategy.

Or

- (b) Analyze how the Digital Landscape has shifted competitive forces within traditional industries.

17. (a) Perform a hypothetical Digital SWOT Analysis for an e-commerce startup, identifying specific threats like cybersecurity and opportunities like AI.

Or

- (b) Develop a comprehensive Customer Journey Map for a high-involvement product from initial online search to post-purchase.

18. (a) Design an Integrated Digital Marketing Plan that synchronizes Email, Social Media, and Search channels for a product launch.

Or

- (b) Discuss the process of Creating and Curating Content that aligns with different stages of the marketing funnel.

19. (a) Develop a Measurement Framework to assess the overall effectiveness of a corporate digital strategy.

Or

- (b) Compare and contrast various Analytics Tools used for informed decision-making.
20. (a) Create a structured Budgeting Plan for a year-long digital campaign, justifying the spend across search, social, and display.

Or

- (b) Discuss the Project Management Lifecycle of a complex digital campaign, from initial planning to post-mortem analysis.
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