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Roll No. \_\_\_\_\_

O.M.R. Serial No. :

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Question Booklet Number

**BBA II Semester Examination, 2025-26**  
**(NEP Back Paper)**

**F010203T - A : Business Mathematics**

**F010203T - B : Advertising Management**

Paper Code							
F	0	1	0	2	0	3	T

Question Booklet Series

**D**

**Time : 1 : 30 Hours ]**

**[ Maximum Marks : 75**

**Instructions to the Examinee :**

1. Do not open the booklet unless you are asked to do so.
2. The booklet contains 100 questions. Examinee is required to answer 75 questions in the OMR Answer-Sheet provided and not in the question booklet. Booklet is in two Section : **Section-A (1-50) & Section-B (51-100)**. Candidate should select 37 and 38 questions respectively from both Sections. **All** questions carry equal marks.
3. Examine the Booklet and the OMR Answer-Sheet very carefully before you proceed. Faulty question booklet due to missing or duplicate pages/questions or having any other discrepancy should be got immediately replaced.

*(Remaining instructions on the last page)*

**परीक्षार्थियों के लिए निर्देश :**

1. प्रश्न-पुस्तिका को तब तक न खोलें जब तक आपसे कहा न जाए।
2. प्रश्न-पुस्तिका में 100 प्रश्न हैं। परीक्षार्थी को 75 प्रश्नों को केवल दी गई OMR आन्सर-शीट पर ही हल करना है, प्रश्न-पुस्तिका पर नहीं। प्रश्न-पुस्तिका दो खण्डों : **खण्ड-अ (1-50) तथा खण्ड-ब (51-100)** में है। परीक्षार्थी को प्रत्येक खण्ड से क्रमशः 37 और 38 प्रश्न करने हैं। **सभी** प्रश्नों के अंक समान हैं।
3. प्रश्नों के उत्तर अंकित करने से पूर्व प्रश्न-पुस्तिका तथा OMR आन्सर-शीट को सावधानीपूर्वक देख लें। दोषपूर्ण प्रश्न-पुस्तिका जिसमें कुछ भाग छपने से छूट गये हों या प्रश्न एक से अधिक बार छप गए हों या उसमें किसी अन्य प्रकार की कमी हो, तो उसे तुरन्त बदल लें।

*(शेष निर्देश अन्तिम पृष्ठ पर)*

**Rough Work**  
रफ़ कार्य

## F010203T - A : Business Mathematics

1. The final step in mathematical induction proves truth for:  
(A)  $n=k$   
(B)  $n=k+1$   
(C)  $n=0$   
(D)  $n=2$
2. The induction hypothesis assumes statement true for:  
(A)  $n=1$   
(B)  $n=k$   
(C)  $n=0$   
(D)  $n=2$
3. The first step in mathematical induction is:  
(A) Assume false  
(B) Verify for  $n=1$  (base case)  
(C) Multiply equation  
(D) Differentiate
4. Mathematical induction is used to prove statements about:  
(A) Finite numbers  
(B) Real numbers  
(C) Natural numbers  
(D) Complex numbers
5. In Gaussian elimination, the matrix is converted into:  
(A) Diagonal form  
(B) Upper triangular form  
(C) Identity form  
(D) Row matrix
6. Gaussian elimination method is used to:  
(A) Find determinant only  
(B) Solve system of linear equations  
(C) Find trace  
(D) Multiply matrices
7. Adjoint of a matrix is obtained from:  
(A) Determinant  
(B) Cofactors  
(C) Trace  
(D) Rank
8. A system of linear equations has unique solution if:  
(A) Rank of coefficient matrix=Rank of augmented matrix=number of variables  
(B) Rank different  
(C) Determinant zero  
(D) Infinite solutions
9. Rank of a matrix cannot exceed:  
(A) Number of rows  
(B) Number of columns  
(C) Order of matrix  
(D) Minimum of rows and columns
10. Rank of a matrix is defined as:  
(A) Number of rows  
(B) Number of columns  
(C) Maximum number of linearly independent rows or columns  
(D) Determinant value
11. The formula for inverse of matrix A is:  
(A)  $A^{-1}=|A|$   
(B)  $A^{-1}=\text{Adj}(A)/|A|$   
(C)  $A^{-1}=A \times \text{Adj}(A)$   
(D)  $A^{-1}=A^2$
12. If determinant of matrix is zero, the matrix is:  
(A) Non-singular  
(B) Singular  
(C) Identity  
(D) Diagonal

13. The inverse of a matrix exists only if:
- (A) Matrix is rectangular
  - (B) Determinant is zero
  - (C) Determinant is non-zero
  - (D) Matrix is null
14. In business, matrices are used for:
- (A) Cost and output analysis
  - (B) Astrology
  - (C) Literature study
  - (D) Weather prediction
15. Matrix multiplication is generally:
- (A) Commutative
  - (B) Associative
  - (C) Both (A) and (B)
  - (D) None
16. If A is of order  $2 \times 3$  and B is of order  $3 \times 4$ , then AB is of order:
- (A)  $2 \times 4$
  - (B)  $3 \times 3$
  - (C)  $4 \times 2$
  - (D)  $2 \times 3$
17. For matrix multiplication AB to exist, number of columns in A must equal:
- (A) Number of rows in B
  - (B) Number of columns in B
  - (C) Number of rows in A
  - (D) Number of elements in B
18. Matrix subtraction is possible only when matrices have:
- (A) Same order
  - (B) Same rank
  - (C) Same determinant
  - (D) Same trace
19. Two matrices can be added if they have:
- (A) Same number of rows
  - (B) Same number of columns
  - (C) Same order
  - (D) Same determinant
20. An identity matrix is a diagonal matrix in which:
- (A) All elements are zero
  - (B) Diagonal elements are 1
  - (C) Diagonal elements are 0
  - (D) All elements are 1
21. A diagonal matrix is a square matrix in which:
- (A) All elements are equal
  - (B) All off-diagonal elements are zero
  - (C) All elements are zero
  - (D) All diagonal elements are zero
22. A matrix having only one column is called:
- (A) Row matrix
  - (B) Column matrix
  - (C) Diagonal matrix
  - (D) Null matrix
23. A matrix having only one row is called:
- (A) Column matrix
  - (B) Row matrix
  - (C) Square matrix
  - (D) Identity matrix
24. A matrix having equal number of rows and columns is called:
- (A) Row matrix
  - (B) Column matrix
  - (C) Square matrix
  - (D) Diagonal matrix
25. A matrix is a rectangular array of elements arranged in:
- (A) Rows only
  - (B) Columns only
  - (C) Rows and columns
  - (D) Diagonal form

26. Find next term in GP: 3, 6, 12, 24, ?
- (A) 36
  - (B) 48
  - (C) 72
  - (D) 96
27. In GP, common ratio is:
- (A) Difference
  - (B) Sum
  - (C) Ratio of successive terms
  - (D) Product
28. The formula for nth term of AP is:
- (A)  $a+(n-1)d$
  - (B)  $a \times r^n$
  - (C)  $a/n$
  - (D)  $a+r$
29. Find the next term in AP: 2, 5, 8, 11, ?
- (A) 12
  - (B) 13
  - (C) 14
  - (D) 15
30. In Arithmetic Progression (AP), common difference is:
- (A) Difference between consecutive terms
  - (B) Sum of terms
  - (C) Product
  - (D) Ratio
31. If average of 4 numbers is 25 and three numbers are 20, 30, 40, the fourth number is:
- (A) 10
  - (B) 15
  - (C) 20
  - (D) 25
32. Weighted average is used when:
- (A) All items equal importance
  - (B) Items have different importance
  - (C) Only two items
  - (D) No items
33. Average of first 5 natural numbers is:
- (A) 2
  - (B) 3
  - (C) 4
  - (D) 5

34. If one number is replaced by a larger number, the average will:
- (A) Decrease
  - (B) Increase
  - (C) Remain same
  - (D) Zero
35. The average of 5 numbers is 40. Their total is:
- (A) 100
  - (B) 150
  - (C) 200
  - (D) 250
36. Average of 10, 20, 30 is:
- (A) 15
  - (B) 20
  - (C) 25
  - (D) 30
37. Direct proportion means:
- (A) Increase in one causes decrease in other
  - (B) Increase in one causes increase in other
  - (C) No relation
  - (D) Constant value
38. Two numbers are in ratio 2:3 and their sum is 50. The smaller number is:
- (A) 20
  - (B) 25
  - (C) 30
  - (D) 15
39. If  $4:5 = x:25$ , then x equals:
- (A) 15
  - (B) 18
  - (C) 20
  - (D) 22
40. If  $5x=15$ , then x is:
- (A) 2
  - (B) 3
  - (C) 4
  - (D) 5
41. If  $A:B=3:4$  and  $B:C=2:5$ , then  $A:B:C$  is:
- (A) 3:4:5
  - (B) 6:8:20
  - (C) 3:4:10
  - (D) 6:8:5

42. The ratio 15:25 in simplest form is:
- (A) 3:5
  - (B) 5:3
  - (C) 15:5
  - (D) 25:15
43. If a number decreases by 20% and becomes 80, the original number was:
- (A) 90
  - (B) 95
  - (C) 100
  - (D) 120
44. A discount of 15% on ₹2000 is:
- (A) ₹250
  - (B) ₹275
  - (C) ₹300
  - (D) ₹350
45. 12.5% is equal to:
- (A)  $\frac{1}{6}$
  - (B)  $\frac{1}{7}$
  - (C)  $\frac{1}{8}$
  - (D)  $\frac{1}{9}$
46. If marks increase from 60 to 75, the percentage increase is:
- (A) 20%
  - (B) 25%
  - (C) 30%
  - (D) 15%
47. A number increased by 10% becomes 220. The original number is:
- (A) 180
  - (B) 190
  - (C) 200
  - (D) 210
48. 40% expressed as a fraction is:
- (A)  $\frac{1}{5}$
  - (B)  $\frac{2}{5}$
  - (C)  $\frac{3}{5}$
  - (D)  $\frac{4}{5}$
49. If the price of a product increases from ₹500 to ₹600, the percentage increase is:
- (A) 10%
  - (B) 15%
  - (C) 20%
  - (D) 25%
50. 25% of 400 is:
- (A) 50
  - (B) 75
  - (C) 100
  - (D) 125

## F010203T - B : Advertising Management

51. What is the final step after allocating an advertising budget?
- (A) Measuring and evaluating the effectiveness of spending
  - (B) Stopping all advertising activities
  - (C) Reducing the budget immediately
  - (D) Ignoring customer feedback
52. In the media mix allocation, how should companies distribute their budget?
- (A) Based on media effectiveness and target audience reach
  - (B) Equally among all media channels
  - (C) Only on television advertisements
  - (D) Only on print media
53. Which factor should be considered when allocating an advertising budget?
- (A) Customer demographics and preferences
  - (B) The company's tax structure
  - (C) The CEO's salary
  - (D) The availability of office space
54. Why do companies allocate different budgets for different products?
- (A) Because each product has different marketing needs
  - (B) To maintain uniform spending across all products
  - (C) To reduce production costs
  - (D) To avoid targeting different consumer segments
55. A company allocating a higher percentage of its budget to digital marketing is focusing on:
- (A) Mass advertising
  - (B) Direct customer engagement
  - (C) Print media dominance
  - (D) Reduced online presence
56. In the Objective-and-Task method, budgets are determined by:
- (A) Setting goals and calculating costs accordingly
  - (B) Guessing the amount needed for advertising
  - (C) Spending the same as competitors
  - (D) Allocating a percentage of revenue
57. Which budget approach is most suitable for new businesses?
- (A) Arbitrary Allocation Method
  - (B) Percentage-of-Sales Method
  - (C) Objective-and-Task Method
  - (D) Competitive Parity Method
58. The Competitive Parity Method involves:
- (A) Spending based on competitor spending
  - (B) Using all profits for advertising
  - (C) Ignoring competition
  - (D) Setting a fixed percentage of sales for advertising

59. What is the main drawback of the Percentage-of-Sales method?
- (A) It eliminates competition
  - (B) It ensures unlimited advertising funds
  - (C) It focuses only on the customer's perspective
  - (D) It does not consider market opportunities
60. Which of the following is NOT a common approach to setting an advertising budget?
- (A) Percentage-of-Sales Method
  - (B) Competitive Parity Method
  - (C) Arbitrary Allocation Method
  - (D) Market Segmentation Method
61. Which of the following is NOT an advantage of setting an advertising budget?
- (A) Helps control expenses
  - (B) Ensures efficient fund allocation
  - (C) Reduces brand awareness
  - (D) Provides clear financial planning
62. A company with a limited budget should focus on:
- (A) High-cost celebrity endorsements
  - (B) Cost-effective digital marketing strategies
  - (C) Only traditional advertising
  - (D) Avoiding any promotional activities
63. Which of the following is NOT a factor influencing an advertising budget?
- (A) Competition
  - (B) Market size
  - (C) Employee salaries
  - (D) Product lifecycle
64. What happens when an advertising budget is not planned properly?
- (A) Inefficient spending and reduced ROI
  - (B) Increased brand visibility
  - (C) Higher customer loyalty
  - (D) Better media coverage
65. Why is an advertising budget important?
- (A) To limit the use of media channels
  - (B) To increase unnecessary marketing expenses
  - (C) To reduce the company's visibility in the market
  - (D) To allocate financial resources effectively
66. According to DAGMAR, an effective advertising objective should be:
- (A) Flexible and vague
  - (B) Subjective and broad
  - (C) Measurable and well-defined
  - (D) Based only on assumptions
67. What is the primary focus of the DAGMAR model?
- (A) Setting measurable advertising objectives
  - (B) Reducing the need for promotional campaigns
  - (C) Cutting advertising budgets
  - (D) Replacing digital marketing with traditional marketing

68. Which of the following is NOT a stage in the DAGMAR model?
- (A) Awareness
  - (B) Comprehension
  - (C) Conviction
  - (D) Pricing
69. Who introduced the DAGMAR model?
- (A) Philip Kotler
  - (B) Russell H. Colley
  - (C) David Ogilvy
  - (D) Peter Drucker
70. What does DAGMAR stand for in advertising?
- (A) Designing Advertisements for Global Market and Reach
  - (B) Determining Advanced Goals for Market Advertising Research
  - (C) Developing Advertising Growth through Marketing and Research
  - (D) Defining Advertising Goals for Measured Advertising Results
71. Which of the following is an example of a promotional objective?
- (A) "Increase brand awareness by 20% in six months"
  - (B) "Reduce production costs by 30%"
  - (C) "Increase the number of employees in the company"
  - (D) "Expand the product range to more categories"
72. Which of the following is NOT a characteristic of an effective promotional objective?
- (A) Specific
  - (B) Measurable
  - (C) Vague
  - (D) Realistic
73. Why is it important to determine promotional objectives?
- (A) To increase competition
  - (B) To avoid spending on advertising
  - (C) To focus only on word-of-mouth promotions
  - (D) To guide marketing strategies effectively
74. Which of the following is NOT an objective of promotional activities?
- (A) Creating brand awareness
  - (B) Encouraging customer loyalty
  - (C) Reducing product quality
  - (D) Increasing sales revenue
75. What is the primary purpose of setting promotional objectives?
- (A) To increase operational costs
  - (B) To provide direction for marketing efforts
  - (C) To limit the use of different media channels
  - (D) To eliminate the need for advertising

76. Which company is well-known for effective international advertising campaigns?
- (A) A government agency
  - (B) A small local business
  - (C) Coca-Cola
  - (D) A non-advertising organization
77. What is the role of translation in international advertising?
- (A) To reduce market reach
  - (B) To ensure all ads remain in one language
  - (C) To increase advertising costs unnecessarily
  - (D) To adapt ads for different languages and cultures
78. What is a benefit of local advertising compared to international advertising?
- (A) Increased global recognition
  - (B) More targeted and relevant messaging for the local audience
  - (C) Eliminating the need for creative ads
  - (D) Avoiding competition from global brands
79. Which factor is NOT a consideration in international advertising?
- (A) Cultural values
  - (B) Language preferences
  - (C) Foreign exchange rates
  - (D) Consumer behaviour
80. Which of the following is a successful example of an international advertising strategy?
- (A) McDonald's adapting its menu and advertising in different countries
  - (B) A local bakery advertising only in one city
  - (C) A company avoiding digital marketing for global reach
  - (D) A brand using a single-language campaign for all countries
81. In international advertising, companies need to:
- (A) Focus only on traditional media
  - (B) Use the same ad campaign worldwide without modification
  - (C) Ignore language and cultural differences
  - (D) Adapt their messaging to different markets

82. Which of the following is a key difference between international and local advertising?
- (A) International advertising must consider multiple cultures and languages
  - (B) Local advertising focuses only on global markets
  - (C) Local advertising ignores consumer preferences
  - (D) International advertising does not require market research
83. Which of the following is a challenge in international advertising?
- (A) Reduced advertising budgets
  - (B) Increased local brand awareness
  - (C) Cultural differences
  - (D) Limited product availability
84. Why is international advertising important?
- (A) To eliminate local advertising strategies
  - (B) To limit advertising costs
  - (C) To reduce competition
  - (D) To expand brand reach and market share globally
85. What is international advertising?
- (A) Advertising limited to one language
  - (B) Advertising focused only on domestic consumers
  - (C) Advertising that is designed for global markets
  - (D) Advertising that does not involve media planning
86. Post-testing of an advertisement is conducted:
- (A) Before launching the ad
  - (B) After the advertisement has been released
  - (C) During the creative development stage
  - (D) While selecting media channels
87. What is market testing for ads?
- (A) Evaluating the effectiveness of an ad in a sample market before full launch
  - (B) Testing the production quality of an advertisement
  - (C) Launching an ad without any evaluation
  - (D) Creating advertisements for international markets only

88. Which of the following is NOT a method of advertising effectiveness testing?
- (A) Pre-testing
  - (B) Post-testing
  - (C) Market testing
  - (D) Direct production
89. Why is advertising research important?
- (A) To avoid creating new advertising campaigns
  - (B) To increase advertising costs
  - (C) To measure the impact and effectiveness of advertisements
  - (D) To limit the use of creative content
90. What is advertising research?
- (A) The legal registration of advertisements
  - (B) The study of consumer responses to advertisements
  - (C) The process of creating advertisements
  - (D) The elimination of media planning
91. Which of the following is an example of a media mix?
- (A) Using TV, radio, and social media for a campaign
  - (B) Only relying on word-of-mouth marketing
  - (C) Using one media platform for all advertisements
  - (D) Avoiding digital marketing
92. What does the term "media mix" refer to in advertising?
- (A) The combination of different media channels used in a campaign
  - (B) The mixture of different colours in an advertisement
  - (C) The blend of promotional offers in advertising
  - (D) The combination of sales strategies used
93. Which of the following is NOT a media planning strategy?
- (A) Choosing the right audience
  - (B) Selecting appropriate media channels
  - (C) Ignoring consumer preferences
  - (D) Allocating the budget effectively

94. Why is media planning important in advertising?
- (A) To focus only on traditional media
  - (B) To reduce the number of advertisements created
  - (C) To limit the use of digital marketing
  - (D) To maximize the effectiveness of advertising campaigns
95. What is media planning?
- (A) The process of selecting the best media channels for an advertisement
  - (B) The process of designing the advertisement layout
  - (C) The process of hiring brand ambassadors
  - (D) The process of setting up a manufacturing unit
96. Why is creativity important in advertising copy?
- (A) To make advertisements more engaging and memorable
  - (B) To increase advertising costs
  - (C) To follow traditional marketing strategies
  - (D) To reduce the need for media planning
97. Which type of advertising copy relies on factual information and product features?
- (A) Emotional copy
  - (B) Institutional copy
  - (C) Scientific copy
  - (D) Humorous copy
98. What is the primary function of a headline in an advertising copy?
- (A) To provide detailed product specifications
  - (B) To grab the reader's attention
  - (C) To display the company's contact details
  - (D) To show the price of the product
99. Which of the following is NOT a component of an advertising copy?
- (A) Headline
  - (B) Logo
  - (C) Body text
  - (D) Call to action
100. What is an advertising copy?
- (A) A written script used only in TV commercials
  - (B) The textual content of an advertisement
  - (C) A legal document for advertising contracts
  - (D) The budget allocation for advertising campaigns

**Rough Work**  
रफ़ कार्य

4. Four alternative answers are mentioned for each question as – A, B, C & D in the booklet. The candidate has to choose the correct answer and mark the same in the OMR Answer-Sheet as per the direction :

**Example :**

**Question :**

- Q. 1    (A)    ●    (C)    (D)
- Q. 2    (A)    (B)    ●    (D)
- Q. 3    (A)    ●    (C)    (D)

5. Each question carries equal marks. Marks will be awarded according to the number of correct answers you have.
6. All answers are to be given on OMR Answer Sheet only. Answers given anywhere other than the place specified in the answer sheet will not be considered valid.
7. Before writing anything on the OMR Answer Sheet, all the instructions given in it should be read carefully.
8. After the completion of the examination candidates should leave the examination hall only after providing their OMR Answer Sheet to the invigilator. Candidate can carry their Question Booklet.
9. There will be no negative marking.
10. Rough work, if any, should be done on the blank pages provided for the purpose in the booklet.
11. To bring and use of log-book, calculator, pager & cellular phone in examination hall is prohibited.
12. In case of any difference found in English and Hindi version of the question, the English version of the question will be held authentic.

**Impt. On opening the question booklet, first check that all the pages of the question booklet are printed properly. If there is any discrepancy in the question booklet, then after showing it to the invigilator, get another question booklet of the same series.**

4. प्रश्न-पुस्तिका में प्रत्येक प्रश्न के चार सम्भावित उत्तर- A, B, C तथा D हैं। परीक्षार्थी को उन चारों विकल्पों में से सही उत्तर छँटना है। उत्तर को OMR उत्तर-पत्रक में सम्बन्धित प्रश्न संख्या में निम्न प्रकार भरना है :

**उदाहरण :**

**प्रश्न :**

- प्रश्न 1    (A)    ●    (C)    (D)
- प्रश्न 2    (A)    (B)    ●    (D)
- प्रश्न 3    (A)    ●    (C)    (D)

5. प्रत्येक प्रश्न के अंक समान हैं। आपके जितने उत्तर सही होंगे, उन्हीं के अनुसार अंक प्रदान किये जायेंगे।
6. सभी उत्तर केवल ओ.एम.आर. उत्तर-पत्रक (OMR Answer Sheet) पर ही दिये जाने हैं। उत्तर-पत्रक में निर्धारित स्थान के अलावा अन्यत्र कहीं पर दिया गया उत्तर मान्य नहीं होगा।
7. ओ.एम.आर. उत्तर-पत्रक (OMR Answer Sheet) पर कुछ भी लिखने से पूर्व उसमें दिये गये सभी अनुदेशों को सावधानीपूर्वक पढ़ लिया जाये।
8. परीक्षा समाप्ति के उपरान्त परीक्षार्थी कक्ष निरीक्षक को अपनी OMR Answer Sheet उपलब्ध कराने के बाद ही परीक्षा कक्ष से प्रस्थान करें। परीक्षार्थी अपने साथ प्रश्न-पुस्तिका ले जा सकते हैं।
9. निगेटिव मार्किंग नहीं है।
10. कोई भी रफ कार्य, प्रश्न-पुस्तिका में, रफ-कार्य के लिए दिए खाली पेज पर ही किया जाना चाहिए।
11. परीक्षा कक्ष में लॉग-बुक, कैल्कुलेटर, पेजर तथा सेल्युलर फोन ले जाना तथा उसका उपयोग करना वर्जित है।
12. प्रश्न के हिन्दी एवं अंग्रेजी रूपान्तरण में भिन्नता होने की दशा में प्रश्न का अंग्रेजी रूपान्तरण ही मान्य होगा।

**महत्वपूर्ण :** प्रश्न-पुस्तिका खोलने पर प्रथमतः जाँच कर देख लें कि प्रश्न-पुस्तिका के सभी पृष्ठ भलीभाँति छपे हुए हैं। यदि प्रश्न-पुस्तिका में कोई कमी हो, तो कक्षनिरीक्षक को दिखाकर उसी सीरीज की दूसरी प्रश्न-पुस्तिका प्राप्त कर लें।