

Dr. Babasaheb Ambedkar Open University
Term End Examination July – 2026

Course	: BBA/DBA	Date	: 19-07-2026
Subject Code	: BBAMDC103/ DBAMDC103	Time	: 11:30am to 01:45pm
Subject Name	: Business Mathematics	Duration	: 02.15 Hours
		Max. Marks	: 70

- 1 Explain the different types of set with examples. 14
- Or**
- 1 Explain the Characteristics and Uses of Binomial Theorem.
- 2 Explain the Properties / Features of an Arithmetic Progression (AP). 14
- Or**
- 2 Solve following simultaneous equations using Cramer's Method.
 $2x + y - z = 3$
 $x + y + z = 1$
 $x - 2y - 3z = 4$
- 3 Solve the following simultaneous equations by matrix inverse method. 14
 $x - 3y + z = -1$
 $2x + y - 4z = -1$
 $6x - 7y + 8z = 7$
- Or**
- 3 Show that the points $(-1, 1)$, $(-\sqrt{3}, +\sqrt{3})$, $(1, -1)$ are the vertices of equilateral triangle.
- 4 Differentiate the following function with respect to x. 14
(1) $y = (5x^2 + 3x + 2)^4$
(2) $y = e^{4x+5}$
(3) $y = a^{3x+2}$
(4) $y = \log(3x + 4)$
- Or**
- 4 Explain the Scope of Mathematics in Finance.
- 5 (a) Short question (any three) 09**
- 1 Simplify the following values
(i) $\sqrt{112} - \sqrt{63} + \sqrt{224} / 28$
(ii) $\sqrt{63} + \sqrt{28} - \sqrt{175}$
- 2 Cartesian Product
- 3 Properties and Types of permutations.

- 4 $x + 20000$ is a total production cost function $27000 + 2x315 - 3$ If $C = x$ where x denotes number of units produced. How many units should produce to minimize total cost

5 Types of Integrals.

5 (b) MCQ

05

- 1 Which type of interest is calculated on the initial principal amount and accrued interest?
A) Compound Interest
B) Simple Interest
C) Both A and B
D) None of the above
- 2 The present value of annuity of Rs. 5,000 per annum for 12 years at 4% p.a. annually is
(a) Rs. 46000 (b) Rs. 46850 (c) Rs.15000 (d) none of these
- 3 The number of ways 4 boys and 3 girls can be seated in a row so that they are alternate is
a) 12
b) 104
c) 144
d) 256
- 4 The common ratio (r) of a geometric progression is known as:
a) fixed constant multiplied by each term
b) fixed constant added to each term
c) difference between the first and last term
d) none of the above
- 5 The Gini coefficient is a measure of:
i. Economic growth
ii. Inflation
iii. Income inequality
iv. Productivity