Q.P. Code: 32222

Second Semester B.Com. Degree Examination, May/June, 2026

(NEP Scheme)

COMMERCE

(NCB 0220) Business Mathematics (Optional)

Time : 2 Hours

Max. Marks : 60

Instructions to students:

1. **The students should legibly write section number along with question numbers.**
2. **The answers without section number and question numbers will not be valued.**
3. **Section - I Multiple choice questions should be answered in the first page of main answer book and some questions shall not be answered repeatedly.**
4. **Any identifications like marking, ticking, dots etc., in the options of MCQ Questions (Section-I) on the question paper is strictly prohibited. Do not write anything (except register number) on the question paper.**
5. **Ordinary calculator may be used.**

SECTION - I

I. Select the most appropriate answer from the options provided. ONE marks each. **(10x1=10)**

I-1. Which of the following is a prime number?
a) 3 b) 6 c) 9 d) 8

I-2. In what period will ₹ 750 amounts to ₹ 975 at 5% p.a. simple interest?
a) 3 years b) 9 years c) 6 years d) 10 years

I-3. In the equation -7+1=5 - 3x, What is the value of x?
a) -2 b) -1 c) 7 d) None of the above

I-4. Ratio is _____
a) Expression of relationship between two quantities of same kind.
b) Expression of relationship between two quantities of different kind.
c) Expression of two things which are not at all related
d) None of the above

I-5. Increase or decrease on one ratio results in decrease or increase is other ratio is called____
a) Inverse proportion b) Direct proportion
c) Compound proportion d) None of the above

I-6. L.C.M. of 42, 60 and 72
a) 2500 b) 2510 c) 2520 d) 2530

I-7. If A = {2, 3, 6, 7} B = {3, 5, 7, 9}. Find (A B)
a) {2, 5, 6, 9} b) {2, 3, 6, 7} c) {3, 7} d) {2, 3, 5, 6}

I-8. If $A = \begin{bmatrix} -2 & 0 \\ 5 & 2 \end{bmatrix}$ $B = \begin{bmatrix} 2 & 1 \\ 4 & 3 \end{bmatrix}$ Then A + B

a) $\begin{bmatrix} 0 & 1 \\ 1 & 5 \end{bmatrix}$ b) $\begin{bmatrix} 4 & 1 \\ 9 & 3 \end{bmatrix}$ c) $\begin{bmatrix} 4 & 1 \\ 1 & 1 \end{bmatrix}$ d) $\begin{bmatrix} 0 & 1 \\ 9 & 5 \end{bmatrix}$

I-9. A Person crosses 600 m long street in 5 minutes. What is his speed in Km per hour?

a) 3.6 b) 7.2 c) 8.4 d) 10

I-10. If 10 : 40 : : x : 20, What is the value of x?

a) 4 b) 2 c) 8 d) 5

SECTION - II

II. Answer any FIVE questions. Each carries THREE marks. (5x3=15)

II-1. Find compound interest on ₹ 25,000 at 7% Interest per annum for 5 years.

II-2. If $A = \begin{bmatrix} 1 & 4 \\ 3 & 5 \end{bmatrix}$ $B = \begin{bmatrix} 7 & 7 \\ 2 & 8 \end{bmatrix}$ Find AB.

II-3. Find the HCF of 667 and 437.

II-4. What is equation ? State any two types of equation.

II-5. Two numbers are in the ratio of 4 : 3, if 6 be added to each they are in ratio of 6 : 4, find the numbers.

II-6. Find the value of $7P_2$ and $7P_3$.

II-7. Find the area of triangle whose sides of length 5 cms each.

II-8. Solve the Factorization method. $X^2 + 5x + 6 = 0$.

SECTION - III

III. Answer any THREE questions. Each carries FIVE marks. (3x5=15)

III-1. Solve for x - use elimination method:

2x+3y=8

5x6y=14

III-2. What is matrix ? Write any 5 types of matrices.

III-3. 24 men work for 10 days to earn ₹ 64,000. How many men have to work for 12 days to earn ₹ 80,000.

III-4. Calculate the present value of an yearly investment of ₹ 6,000 @ 10% compound interest for a period of 7 years.

III-5. Write down the laws of indices with examples.

SECTION - IV

IV. Answer the following questions. TEN marks each. **(2x10=20)**

IV-1. a) In a meeting there were 7 men and 3 women. Find the number of ways in a committee of 6 can be formed from them if there should be atleast 2 women.

b) Find the area of triangle whose sides are 26, 28 and 30 inches.

OR

Explain the types of numbers in the number system.

IV-2. a) If $A = \begin{bmatrix} 1 & 3 \\ 4 & 7 \end{bmatrix}$ Find $A^2 - 5A + 1$

b) $10(x - 4) - 15(x - 3) = 3(3 + x) - 20$. Find 'x'

OR

What is set ? Explain the types of sets.

* * *