

Second Semester FYUGP Degree (Sup/Imp) Examination
April 2026

KU2DSCBBA104 - BUSINESS MATHEMATICS

2024 Admission onwards

Time : 2 hours

Maximum Marks : 70

Section A

Answer any 6 questions. Each carry 3 marks.

1. Find the simple interest on Rs 25,000 at 10% per annum for 3 years.
2. What is interest?
3. How to calculate the n th term of AP?
4. What is Geometric Progression?
5. How to calculate the sum of n terms of a GP?
6. What is the order of a 3x3 matrix?
7. Construct a 2x2 matrix whose elements are given by $a_{ij} = (i + j)^2$
8. Find the determinant of

$$A = \begin{bmatrix} 2 & 4 \\ -1 & 2 \end{bmatrix}$$

Section B

Answer any 4 questions. Each carry 6 marks.

9. Find the number of terms in the sequence 72,67,62.....
10. If the 9 th term of an AP is 99 and 99 th term is 9. Find the 108 th term.
11. Find the sum of the first 4 terms of 10,30,90.....
12. If

$$A = \begin{bmatrix} 8 & 0 \\ 4 & -2 \\ 3 & 6 \end{bmatrix} \quad B = \begin{bmatrix} 2 & -2 \\ 4 & 2 \\ -5 & 1 \end{bmatrix}$$

find the matrix X such that $2A + 3X = 5B$

13. Find the rank

$$D = \begin{bmatrix} 1 & 2 & 1 \\ 2 & 3 & 1 \\ 1 & 1 & 2 \end{bmatrix}$$

14. If

$$A = \begin{bmatrix} 1 & 2 \\ 4 & 2 \end{bmatrix}$$

then show that $|2A| = 4|A|$

Section C

Answer any 2 questions. Each carry 14 marks.

15. In a perfect competition, the demand curve of a commodity is $D = 19 - 3p - p^2$ and supply curve is $S = 5p - 1$. For equilibrium $D = S$. Find equilibrium price and equilibrium quantity.
16. A) A man sells 7 horses and 8 cows at Rs. 2940 and 5 horses and 6 cows at Rs. 2150. What is the selling price of each.
B) Find the equilibrium price and quantity exchanged at the equilibrium price if supply and demand function are given by $S = 20 + 3P$, $D = 160 - 2P$ where 'P' is the price charged. For equilibrium $S = D$.
17. Explain any 3 methods for calculating depreciation.