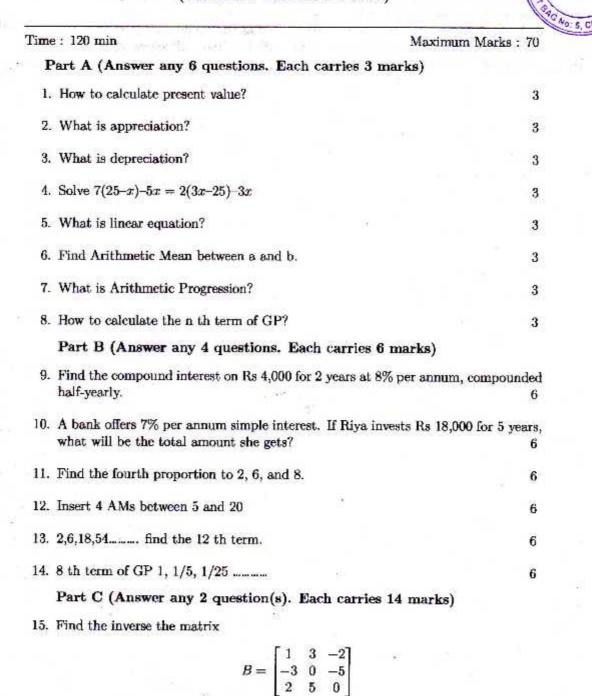# Second Semester FYUGP Management Studies Examination
APRIL 2025 (2024 Admission onwards)
KU2DSCBBA104 (BUSINESS MATHEMATICS)
(DATE OF EXAM: 2-5-2025)

Time : 120 min   Maximum Marks : 70

Part A (Answer any 6 questions. Each carries 3 marks)

1. How to calculate present value?   3

2. What is appreciation?   3

3. What is depreciation?   3

4. Solve $7(25-x)-5x = 2(3x-25)-3x$ 3

5. What is linear equation?   3

6. Find Arithmetic Mean between a and b.   3

7. What is Arithmetic Progression?   3

8. How to calculate the n th term of GP?   3

Part B (Answer any 4 questions. Each carries 6 marks)

9. Find the compound interest on Rs 4,000 for 2 years at 8% per annum, compounded half-yearly.   6

10. A bank offers 7% per annum simple interest. If Riya invests Rs 18,000 for 5 years, what will be the total amount she gets?   6

11. Find the fourth proportion to 2, 6, and 8.   6

12. Insert 4 AMs between 5 and 20   6

13. 2,6,18,54............ find the 12 th term.   6

14. 8 th term of GP 1, 1/5, 1/25   6

Part C (Answer any 2 question(s). Each carries 14 marks)

15. Find the inverse the matrix

$$B = \begin{bmatrix} 1 & 3 & -2 \\ -3 & 0 & -5 \\ 2 & 5 & 0 \end{bmatrix}$$

16. Find $A^2 - 5A + 6I$ if

$$A = \begin{bmatrix} 2 & 0 & 1 \\ 2 & 1 & 3 \\ 1 & -1 & 0 \end{bmatrix}$$

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17. 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 $S = D$.   14