



PRESIDENCY UNIVERSITY

BENGALURU

Roll No.																			
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Makeup Examinations - December 2025

Date: 26 - 12- 2025

Time: 1.00pm to 04.00pm

School: SOC	Program: Common for all		
Course Code :MAT1021	Course Name: Business Mathematics		
Semester: MK	Max Marks:100	Weightage:50%	

CO - Levels	C01	C02	C03	C04
Marks	31	39	16	14

Instructions:

- (i) Read all questions carefully and answer accordingly.
- (ii) Do not write anything on the question paper other than roll number.

Part A

Answer ALL the Questions. Each question carries 2marks.

10Q x2M=20M

1.	What is the n^{th} term of Geometric Progression?	2 Marks	L1	C01
2.	Find the sum of the first 10 positive integers divisible by 3.	2 Marks	L2	C01
3.	Find the sum of the first 16 terms of A.P 41, 36, 31,.....	2 Marks	L2	C01
4.	Let $A = \begin{bmatrix} 1 \\ -2 \end{bmatrix}$, $B = [3 \ 2]$ then find AB	2 Marks	L1	C02
5.	If the determinant of a matrix of A is equal to 3 then find the value of x when $A = \begin{bmatrix} x & 1 \\ 2 & -1 \end{bmatrix}$	2 Marks	L1	C02
6.	Define one to one function with example.	2 Marks	L1	C03
7.	Identify the value of $\lim_{x \rightarrow 1} (4x^2 + 6x + 5)$	2 Marks	L2	C03
8.	Identify the derivative of x^3	2 Marks	L2	C03
9.	Plot the points $A = (1,2)$, $B = (-2,1)$ and specify the quadrant in which each point lies?	2 Marks	L2	C04
10.	Define polynomial function.	2 Marks	L1	C04

Part B

Answer ALL the Questions..

Total Marks 80M

11.	a.	Find the sum of first 200 terms of the following series $1 + 4 + 6 + 5 + 11 + 6 + 16 + 7 + \dots$	10 Marks	L3	CO1
Or					
12.	a.	In an A.P 7^{th} and 21^{st} terms are 6 and -22 respectively. Find the 30^{th} term.	10 Marks	L3	CO1

13.	a.	Compute AB and BA , $A = \begin{bmatrix} 1 & 2 & -3 \\ 6 & 0 & 3 \\ 2 & -1 & 1 \end{bmatrix}$ and $B = \begin{bmatrix} 4 & -1 & 3 \\ 3 & 3 & 10 \\ 2 & 0 & 3 \end{bmatrix}$	10 Marks	L2	CO2
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Or					
14.	a.	Given $A = \begin{bmatrix} 4 & 2 & -1 \\ 3 & -7 & 1 \end{bmatrix}$ and $B = \begin{bmatrix} 2 & 3 \\ -3 & 0 \\ -1 & 5 \end{bmatrix}$, defend $(AB)' = B'A'$	10 Marks	L2	CO2

15.	a.	Estimate x and y of the following equations using Cramer's rule $12x + 3y = 15, \quad 2x - 3y = 13$	10 Marks	L3	CO2
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Or					
16.	a.	Estimate x and y of the following equations using Cramer's rule $x + y = 5, 2x - 3y = -4$	10 Marks	L3	CO2

17.	a.	Calculate the limits of the functions (i) $\lim_{x \rightarrow 1} \left[\frac{x^3 - 4}{\sqrt{3x - 2} + \sqrt{x + 2}} \right]$, (ii) $\lim_{x \rightarrow 1} \left[\frac{x^2 + 4}{x + 2025} \right]$	10 Marks	L2	CO3
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Or					
18.	a.	Find the derivative of the functions (i) $y = e^{3x^3 + 4}$, (ii) $y = x^3 + x^2 e^x$	10 Marks	L2	CO3

19.	a.	Plot the points A(1, 4), B(-2,4), C(-3,-2), D(0,6) and E(6.5, 0).	10 Marks	L3	CO4
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Or

20.	a.	Locate the points (5, 0), (0, 5), (2, 5), (5, 2), (-3, 5), (-3, -5) and (6, 1) in the Cartesian plane.	10 Marks	L3	CO4
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21.	a.	Mr. Kevin earns ₹400,000 per annum and his salary increases by ₹50,000 per annum. Then how much does he earn at the end of the first 3 years?	15 Marks	L3	CO1
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Or

22.	a.	A person has 2 parents, 4 grandparents, 8 great-grandparents, and so on. Can you determine the number of ancestors during the 8 generations preceding his own?	15 Marks	L3	CO1
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Or

23.	a.	The price of 4 Mathematics books, 2 Accounting, and 3 Computer books is Rs 134. The cost of one Mathematics, 3 Accounting, and 2 Computer books is 81 and the cost of 2 Mathematics books, one Accounting, and 5 computer books is Rs 130. Find the rate per book of each.	15 Marks	L3	CO2
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Or

24.	a.	Solve the system of equations using Cramers rule $x+y+z= 11$, $2x-6y-z=0$, $3x+4y+2z=0$	15 Marks	L3	CO2
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