

Your Roll No.....

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School of Pharmaceutical Education and Research
B. Pharm. First Semester-End term Examination (2023-24)

Subject: Remedial Mathematics
 Paper Code: BP 106 RMT

Date: 22-03-24

Maximum Marks: 35
 Time: 1.5 hours

(Write your Roll No. on the top immediately on receipt of this question paper)

Note: This paper has 2 sections A and B. Attempt all the sections.

Section A: Answer any ONE out of TWO questions;

Section B: Answer any FIVE out of SEVEN questions

Abbreviations Used:

CO- Course Outcome, PO- Program Outcome, BTL- Bloom Taxonomy Level: BT level 1-Remember; BT level 2- Understand; BT level 3- Apply; BT level 4- Analyze; BT level 5- Evaluate; BT level 6- Create.

SECTION A

Long type Questions (Attempt any ONE out of 2)

10x1=10 Marks

Q. No	Question	BTL	CO	PO
1.	Discuss the maxima and minima of the function $f(x) = x^5 - 5x^4 + 5x^3 - 1$	5	3	4
2	Find the Inverse of the matrix $A = \begin{bmatrix} 1 & -2 & 3 \\ 3 & 1 & 2 \\ 2 & 4 & 5 \end{bmatrix}$	4	2	4

SECTION B

Short-type Questions. (Attempt any 5 out of 7 questions)

5x5=25 Marks

Q. No	Question	BTL	CO	PO
1.	Split into partial fractions $\frac{1}{(x^2 + 1)(x - 2)}$	3	1	4
2.	Solve the differential equations: $(x+1) \frac{dy}{dx} = x(y^2 + 1)$	5	5	4
3.	Differentiate with respect to x: $y = \frac{x \sin x}{1 + \cos x}$	3	3	4
4.	Evaluate: $\lim_{x \rightarrow 4} \frac{x^3 - 64}{x - 4}$	5	1	2
5.	Find the equation of straight line passing through (1,1) and parallel to $2x - 3y + 5 = 0$.	3	4	4
6.	Solve the following system of equations by Cramer's Rule: $x - 2y = 4$ $-3x + 5y = -7$	3	2	4
7.	Integrate: $\int_0^{\pi} x \sin x \, dx$	5	4	4