



BRAINWARE UNIVERSITY

Term End Examination 2023-2024

Programme – B.Pharm-2020/B.Pharm-2022/B.Pharm-2023

Course Name – Remedial Mathematics

Course Code - BP106RMT

(Semester I)

Library
Brainware University
399, Ramkrishna Road, Barasat
Kolkata, West Bengal-700125

Full Marks : 35

Time : 1:30 Hours

[The figure in the margin indicates full marks. Candidates are required to give their answers in their own words as far as practicable.]

Group-A

(Short Answer Type Questions)

5 x 5=25

1. Represent the equation of the straight line which makes equal intercept on the axes and passes through the point (3, -5). (5)
2. Let (5)

$$f(x) = \begin{cases} x, & 0 < x < 1 \\ 2-x, & 1 \leq x \leq 2 \\ x-x^2, & x > 2. \end{cases}$$

Show that f(x) is discontinuous at x=2.

3. (5)

If $A = \begin{bmatrix} 2 & -3 & -5 \\ -1 & 4 & 5 \\ 1 & -3 & -4 \end{bmatrix}$, $B = \begin{bmatrix} -1 & 3 & 5 \\ 1 & -3 & -5 \\ -1 & 3 & 5 \end{bmatrix}$, identify the matrix

$AB+A$.

4. (5)

$$\lim_{x \rightarrow 0} \frac{x^2}{e^x - x - 1}$$

Interpret the value of the limit:

5. Write the value of $\int x \cos x \, dx$. (5)

OR

Write the value of $\frac{d}{dx}(x^2 \cos x)$. (5)

Group-B

(Long Answer Type Questions)

10 x 1=10

6. Write the value of x if logarithm of $(x^2 - 6x - 50)$ to the base 5 is equal to 1. (10)

OR

Solve: $\int \sec x (\sec x + \tan x) \, dx$ (10)
