13800

BRAINWARE UNIVERSITY

Term End Examination 2025-2026
Programme – B.Pharm-2024/B.Pharm-2025
Course Name – Remedial Mathematics
Course Code - BP106RMT
(Semester I)

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. Identify the area of the triangle with vertices $A(1,1,2)$, $B(2,3,5)$ and $C(1,5,5)$. (5)

2. Identify the value of the limit: $\lim_{x\to 0} \frac{\sqrt{x^2+1}-1}{\sqrt{x+1}-1}$. (5)

3. Identify the characteristic equation of the matrix $\begin{bmatrix} 2 & 1 \\ 4 & 3 \end{bmatrix}$. (5)

4. Write the second order derivative of $f(x) = x^3 e^x$. (5)

OR

Illustrate $log_{10}(0.01 \times 100)$ using properties. (5)

5. If $f(x) = x^4 - 4x^3 + 6$, illustrate $f''(x)$. (5)

OR

Write the value of the definite integral $\int_0^1 (2x + 3)\, dx$. (5)

Group-B

(Long Answer Type Questions) 10 x 1=10

6. Solve: $\int \frac{1+\cos x}{\sin x} dx$. (10)

OR

If $B = \begin{bmatrix} 0 & 3 & 2 \\ 1 & -2 & -5 \\ -1 & 3 & 5 \end{bmatrix}$ and $C = \begin{bmatrix} 2 & -2 & 4 \\ -1 & 4 & -1 \\ 1 & -1 & -3 \end{bmatrix}$, write the matrix $BC - C^2$. (10)

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