B. Pharm. First Semester (New)

35307 : Remedial Mathematics : BP 106 RMT

P. Pages : 1

AW - 2337

Time : One and Half Hours

* 0 5 8 7 *

Max. Marks : 35

Notes : 1. Answer **all** question from given questions.
2. Use of slide rule logarithmic tables, Steam tables, Moller's Chart, Drawing instrument, Thermodynamic table for moist air, Psychrometric Charts and Refrigeration charts is permitted use of simple calculator is permitted.
3. Use of pen Blue/Black ink/refill only for writing the answer book.

1. Solve **any one.** **10**

a) Find value of p & q if the equation $px^2 - 8xy + 3y^2 + 14x + 2y + q = 0$ represents pair of perpendicular lines.

b) Solve the equations using Cramer rule
$x + 2y + 3z = 9,\ 2x + 3y + z = 4\ \ 4x + 5y + 4z = 15.$

2. Solve **any five.** **25**

a) Evaluate $\lim_{x \to 4} \dfrac{x^4 - 64x}{\sqrt{x^2 + 9} - 5}$

b) Evaluate $\int x \log(x+1)\,dx$.

c) Find the Laplace transform of $t\, e^{-3t} - 4\cosh 2t + 5t^4 - 7 \sinh 3t$

d) Solve the differential equation.
$\dfrac{dy}{dx} = \dfrac{\sin x + x \cos x}{y(1 + 2\log y)}$

e) Find joint equation of pair of lines given by $eq^n\ 2x + 3y + 5 = 0$ and $x - y + 3 = 0$.

f) Find $\dfrac{dy}{dx}$ if $y = \log\left[\log(\log x)\right]$.

g) Evaluate $\int_0^{\pi/2} \dfrac{dx}{1 + \tan^m x}$.

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