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Code No. 1146 / PCI

FACULTY OF PHARMACY

B. Pharmacy I-Semester (PCI) (Main) Examination, February 2018

Subject : Remedial Mathematics

Time : 1 ½ Hours | Max. Marks: 35

Note: Answer any one question from Part – A, any five questions from Part – B.

PART – A (1x10=10 Marks)

Answer any ONE of the following.

1 (a) If $(2.3)^x = (0.023)^y = 10000$ then find the value of $\frac{1}{x} - \frac{1}{y} = ?$

(b) Verify the following points are collinear (1,2), (3,4) (5,6) (7,8) ?

2 (a) Solve $\tan y.e^x\, dx - \sec^2 y\,(1+e^x)\, dy = 0$

(b) Solve the following simultaneous linear equations by using matrix Inversion method.
x+y+z=6; x-y+z=2; 2x-y+3z=9

PART- B (5x5=25 Marks)

Answer any FIVE Questions.

2 Show that $\lim_{x\to 0} \frac{\cos ax - \cos bx}{x^2} = \frac{b^2 - a^2}{2}$

4 If $A=\begin{pmatrix} -1 & -2 & -2 \\ 2 & 1 & -2 \\ 2 & -2 & 1 \end{pmatrix}$ then show that $adj(A)=3A^T$ and find A^{-1}?

5 If $ax^2+2hxy+by^2=0$ then find $\frac{d^2y}{dx^2}$?

6 Evaluate $\int 2x\cos^2 x dx$.

7 If $L[f(t)]=f(s)$ then show that $L[e^{at} f(t)] = f(s-a)$ and $L[e^{-at} f(t)] = f(s+a)$

8 If $x^{\log y} = \log x$ then show that $\frac{dy}{dx} = \frac{y}{x}\left[\frac{1-\log x.\log y}{(\log x)^2}\right]$

9 Write the applications of Remedial Mathematics especially, Logarithmic matrices. Differentiation and Integration in Pharmacy.

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