DR. BABASAHEB AMBEDKAR TECHNOLOGICAL UNIVERSITY
LONERE – RAIGAD – 402 103
Winter Semester Examination – December – 2018

Branch: B. Pharmacy Semester: I **Marks: 35**
Subject / code: Remedial Mathematics (BP 106RMT) **Date: 28/12/2018** **Time: 1.30 Hours**

Que. 1) Solve any one. [marks – 10]

1) a) Solve The system of equations by cramer's rule.

$$\frac{2}{x}+\frac{3}{y}+\frac{10}{z}=4, \quad \frac{4}{x}-\frac{6}{y}+\frac{5}{z}=1, \quad \frac{6}{x}+\frac{9}{y}-\frac{20}{z}=2$$

b) Resolve $\frac{2x+3}{x^2-2x-3}$ into partial fraction.

2) a) If $A=\begin{bmatrix}1 & 2\\ 3 & 4\end{bmatrix}$ *and* $B=\begin{bmatrix}1 & 4\\ 2 & 5\end{bmatrix}$ verify that $(AB)^T = B^T A^T$

b) Find the inverse of the matrix $A=\begin{bmatrix}1 & 2 & 3\\ 2 & 3 & 1\\ 3 & 1 & 2\end{bmatrix}$

Que. 2) Solve any Five. [marks – 25]

1) If $f(x)$ if function of x and k is constant, then $\frac{d}{dx}(kf(x)) = k\frac{d}{dx}f(x)$

2) If $f(x)$ and $g(x)$ are two functions of x, then $\frac{d}{dx}[f(x)+g(x)] = \frac{d}{dx}f(x)+\frac{d}{dx}g(x)$

3) $\lim_{x\to 3}\frac{x^2-9}{x-3}$

4) Write the cofactors of each elements of the determinant $\Delta=\begin{vmatrix}0 & 1 & -1\\ 2 & -1 & 3\\ 3 & 4 & 5\end{vmatrix}$

5) If $A=\begin{bmatrix}2 & 0 & -1\\ 1 & 2 & 1\end{bmatrix}$, $B=\begin{bmatrix}0 & 1 & 2\\ 3 & 1 & 0\end{bmatrix}$, then find A + B, A – B.

6) If $A=\begin{bmatrix}1 & 2\\ 3 & 4\end{bmatrix}$, then find the adjoint of the matrix

7) Find the area of the triangle with vertices are (3,8), (-4,2) & (5,-1)

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