Code No: B13102   **R13**   **SET - 1**

I B. Pharmacy I Semester Supplementary Examinations, February - 2019
REMEDIAL MATHEMATICS-I

Time: 3 hours   Max. Marks: 70

Note: 1. Question Paper consists of two parts (**Part-A** and **Part-B**)
        2. Answering the question in **Part-A** is Compulsory
        3. Answer any **THREE** Questions from **Part-B**

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PART –A

1. a) Write first three terms in the expansion of $(3+4x)^{-\frac{2}{3}}$ (4M)

    b) Find $\tan 15^0$.   (4M)

    c) Show that the points (2,2) ,(6,3),(4,11) form a right angled triangle.   (4M)

    d) Evaluate $\int \sqrt{x}(1-x)dx$ (4M)

    e) Show that $y = e^x+1$ is a solution of the D.E $\dfrac{d^2y}{dx^2} - \dfrac{dy}{dx} = 0$ (3M)

    f) Find $Lt_{x\to 1} \dfrac{2x^3 - 3x^2 +1}{9x^2 +8x+7}$ (3M)

PART -B

2. a) Resolve $\dfrac{1}{(x-1)^2 (x-2)}$ into partial fractions.   (8M)

    b) Find the Inverse of the matrix A=$\begin{bmatrix} 1 & 3 & 3 \\ 1 & 4 & 3 \\ 1 & 3 & 4 \end{bmatrix}$ (8M)

3. a) In triangle ABC prove that sinA + sin(B-C) = 2sinBcosC.   (8M)

    b) Prove that $\cos 2A = \cos^2 A - \sin^2 A = \dfrac{1-\tan^2 A}{1+\tan^2 A}$ (8M)

4. a) Find the locus of point P such that PA+PB =6 where A (0,2) and B(0,-2).   (8M)

    b) Find the equation of the straight line of inclination 135^0 and intercept -3 on the y-axis.   (8M)

5. a) Evaluate $\int cos\, ecx\, dx$ (8M)

    b) Evaluate $\int \dfrac{dx}{(x+2)(x+3)}$ (8M)

6. a) Solve the D.E $\dfrac{dy}{dx} = \dfrac{y^2+1}{1+x^2}$ (8M)

    b) Find the $L\left(e^{-t}\cosh t + t^2\right)$ (8M)

7. a) Find the derivate of $\log\left[x+\sqrt{x^2-1}\right]$ (8M)

    b) Find the derivate of 3^x.   (8M)