Code No: PHR16112 **R16** SET - 1

I B. Pharmacy I Semester Supplementary Examinations, May/June - 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 questions in **Part-A** is Compulsory
3. Answer any **FOUR** Questions from **Part-B**

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PART –A

1. a) Find the value of 42_{C_2} (2M)

   b) Write the value of cosh (A-B). (2M)

   c) Find the distance between the points (1 , 2), (-5, 7) (2M)

   d) Find $Lt_{x\to 1}\dfrac{x-1}{x^2-1}$ (2M)

   e) Evaluate $\int x^2 dx$ (2M)

   f) Find the Laplace transform of e^{at} (2M)

   g) Find the order and degree of the DE $y^{11}+3\left(y^{1}\right)^2=2x$ (2M)

PART -B

2. a) Find 'x ' if $\begin{vmatrix} x+2 & 2x+3 & 3x+4 \\ 2x+3 & 3x+4 & 4x+5 \\ 3x+5 & 5x+8 & 10x+7 \end{vmatrix}=0$ (7M)

   b) Resolve $\dfrac{1}{(x-a)\left(x^2+b\right)}$ into partial fractions. (7M)

3. a) If (secA + tanA) (secB + tanB) (secC + tanC)= (secA - tanA) (secB - tanB) (secC - tanC) then prove that each is equal to ±1. (7M)

   b) The angle of elevation of the top of a tower at a point A on the ground is 30^0. On walking 20 m towards the tower, the angle of elevation is 60^0. Find the height of the tower from its distance from A. (7M)

4. a) Find the equation of the line passing through the point of intersection of the lines 3x +2y+4 = 0, 2x + 5 y =1 and whose distance from (2 , -1) is 2. (7M)

   b) Find the equation of the locus of P if A = (2 ,3) ,B = (2, -3) and PA +PB = 8. (7M)

5. a) Using fundamental theorem find the derivative of cotx. (7M)

   b) Find the derivate of $\text{Tan}^{-1}\left(\dfrac{x}{\quad}\right)$ (7M)
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6. a) Evaluate $\int (x+1)(x-2)^9 dx$ (7M)

   b) Find the area of the curves bounded by y = x , y = 0 and x = 0 , x = 1 (7M)

7. a) Solve the D.E $\frac{dy}{dx} = \frac{x^2 + y^2}{2xy}$ (7M)

   b) Form the differential equation corresponding to family of curves $y^2 = 4ax$ (7M)