

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 questions in **Part-A** is Compulsory
 3. Answer any **FOUR** Questions from **Part-B**

PART -A

1. a) Find the 5 digit numbers that can be formed using the digits 1, 1, 2, 2, 3. (2M)
- b) Write the values of $(\cos \theta + \sin \theta)^2 + (\cos \theta - \sin \theta)^2$ (2M)
- c) Find the distance between the points (7,9) ,(3,-7) (2M)
- d) Write the expansion of r^{th} term in $(x+2)^n$ (2M)
- e) Evaluate $\int (4x^{-2} + \cos x) dx$ (2M)
- f) Find the order and degree of the D.E $\frac{dy}{dx} = \sin x$ (2M)
- g) Find the derivate of $\cos 2x$ (2M)

PART -B

2. a) Resolve $\frac{3x-18}{x^3(x+3)}$ into partial fractions. (7M)
- b) Show that $\begin{vmatrix} a & a+b & a+b+c \\ 2a & 2b+3a & 4a+3b+2c \\ 3a & 6a+3b & 10a+6b+3c \end{vmatrix} = a^3$ (7M)
3. a) If $A+B+C = \frac{\pi}{2}$, then prove that $\tan A. \tan B + \tan B. \tan C + \tan A. \tan C = 1$. (7M)
- b) Find the value of $\cos 18^\circ$. (7M)
4. a) Find the locus of point P such that $PA-PB=4$ where A (4,0) and B(-4,0) (7M)
- b) Reduce the equation $5x-4y+10=0$ into (i) slope -intercept form (ii) perpendicular form. (7M)
5. a) Evaluate $\int \frac{dx}{(x^2+5x+6)}$ (7M)
- b) Evaluate $\int \frac{dx}{1+\tan x}$ (7M)
6. a) Solve the D.E $\frac{dy}{dx} = -4xy^2$ (7M)
- b) Find the $L(e^t \sin t + t^3)$ (7M)
7. a) Find the $Lt_{x \rightarrow 3} \frac{x^3-27}{x-3}$ (7M)
- b) Find the derivate of $\log [x - \sqrt{x^2-1}]$ (7M)