Code: 9RBS101

R09

B.Pharm I Year (R09) Supplementary Examinations June 2018

REMEDIAL MATHEMATICS

Time: 3 hours Max. Marks: 70

Answer any FIVE questions
All questions carry equal marks
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1 (a) Find the independent term of x in expression of $\left(x^2+\frac{1}{x}\right)^9$.

(b) Solve $2x+3y-1=0\,,3x-y+2=0$ by Cramer's rule.

2 (a) Prove that $\sin 20°\cos 40°+\cos 20°\sin 40°=\frac{\sqrt{3}}{2}$.

(b) A man on the top of cliff 100 m high observes the angle of depression of the two points on opposite sides of the cliff as 30° and 60° respectively. Find the distance between the two points.

3 (a) Find the area of the triangle formed by the straight line x-4y+2 = 0 and the coordinate axis.

(b) Find the angle between the straight lines 3x+5y=7, 2x-y+4=0.

4 (a) Find $\lim_{x\to 4}\frac{3-\sqrt{5+x}}{x-4}$.

(b) Find $\frac{dy}{dx} when\ y=9x^7+7x^5+6.$

5 (a) Find the derivative of the following functions with respect to x

$$\frac{sinx}{sinx+cosx}$$

(b) Find maxima and minima of function :x^2+6x+10.

6 (a) Evaluate $\int\left(\frac{ax^3+bx^2+cx+d}{x}\right)dx.$

(b) Evaluate $\int_0^1(2x^2+3x+1)dx.$

7 (a) Form the differential equation of xy = $ae^x + be^{-x}$ where a,b are arbitrary constants.

(b) Solve $\frac{dy}{dx}=e^{x-y}+x^2.e^{-y}.$

8 (a) Solve $\frac{dy}{dx}=\frac{2xy}{x^2+y^2}.$

(b) Solve $x\frac{dy}{dx}+y=(1+x)e^x.$

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