CLASS XII
GUESS PAPER
MATHS

Q.1 If $\tan^{-1}\frac{x-3}{x-4}$ +tan-1$\frac{x+3}{x+4}$=$\pi/4$ find the value of x

Q.2 (i) If $x^x+y^x=a^b$ then find dy/dx (ii) Differentiate $x^{\sin x}+(\sin x)^{\cos x}$ with respect to x.

Q.3 Show that the points A, B, C whose position vector are respectively 2i – j +k, I – 3j- 5k and 3i – 4j- 4k are the vertices of right angled triangle. Hence find area of triangle.

Q.4 writes the position vector of the point which divides the join of point s 3 $\vec{a} - 2\vec{b}$ and $2\vec{a} + 3\vec{b}$ in the ration 2:1

Q.5 write the number of vectors of unit length perpendicular to both the vectors $\vec{a} = 2i + j + 2k, \ \vec{b} = j + k$

Q.6 A bag contains 4 balls. Two balls are drawn at random without replacement and are found to be white. What is the probability all balls in the bag are white.

Q.7 Evaluate $\int_0^{3/2}|x\cos\pi x|\,dx$

Q.8 Five bad oranges are accidently mixed with 20 good ones. If 4 are drawn one by one with replacement then find probability distribution of number of bad oranges drawn and hence find mean and variance of distribution.

Q.9 If x=asin2t.(1+cos2t) and y=bcos2t(1-cos2t), find dy/dx at t= $\pi/4$

Q.10 Evaluate $\int_0^{\pi/2} \frac{sin^2x}{sinx+cosx}dx$

………