**QUESTION BANK SEM 1**

**APPLIED MATHS (17301) for 4& 2 marks**

**CH.1 Application Of Deravatives**

1.Find slope of tangent if x=acos3,y=bsin3 at =

2.At what point on curve y=3x-x2 the slope is -5.

3. A metal wire 36cm long is bent to form a rectangle find its dimension when its area is maximum.

4.Divide 80 into 2 parts such that their product is maximum.

5. Find radius of curvature of curve y=x3 at(2,8)

6.Find maxima &minima of y= 2x3-3x2-36x+10

CH.2 Integration

7.If f’(x)= asinx+bcosx, f’(0)=4,f(0)=3, f()=5

8. Evaluate 9. Evaluate dx

10. Evaluate dx 11. Evaluate

12. Evaluate 13.Evaluate

CH.3 Definite Integral

14.dx 15. Evaluate dx

16. Evaluate dx 17. Evaluate dx

Ch.4Application of Definite Integral

18.Find area between y=x2+1& line y=2x+1

19.Find area bounded by curves y2= 4x&x2= 4y.

20.find area of circle x2+y2=36 by definite integral.

Ch.5 Differential Equation

21.Find order & Degree of a) + = y

22.Form a differential equation if y=Asinx+Bcosx

23.show that y= is general solution of x=ylogy.

24.verify that y= is solution of differential equation (1-x2) -x -m2y=0

25.solve=1+x+y+xy 26.sec2xtanydx+sec2ytanxdy=0 if y= =x

27. ) Solve =

28.Show that differential equation (3x2+6xy)dx+(6x2y+4y3)dy=0 is exact.

29.Solve (ex +2xy2+y3)dx+(ey+2x2y+3xy2)dy =0

30.Find integrating factor of +ytanx= cos2x

31.Solve.

Ch 6 Probability

32.An unbiased coin is tossed 6 times find probability of i)getting 2 heads ii)Exactly 4 heads

33.Two cards are drawn at random from well shuffled pack of 52 cards find probability that 2 cards form a pair of king& queen of same suit.

34.A bag contains 3 Red 4Green, 2 Blue balls 2 balls are drawn at random find probability that getting one red & one green.

35. In college hostel there are 75 students out of which 15 students like drink tea, 40 likes to drink coffee and 20 like neither tea nor coffee. Two students from this hostel come to canteen. Find the probability that both will order same drink?

36. An urn contains 12 red, 4 white and 5 black balls, two balls are drawn at random. Find the probability that they are not of the same colour.

Ch.7 Probability Distribution

37.If 10% of bolts produced by a machine are defective determine probability that out of 10 bolts chosen at random 1) one 2) at most 2 bolts are defective.

38.If the probability of bad reaction from a certain injection is0.001 determine chance out of 2000 individuals more than 2 will get a bad reaction.(e2 =7.3891)

39.In a sample of 1000 cases the mean of certain test is 14& standard deviation is 2.5 Assuming the distribution to be normal find How many students score1) between 12 to 15 2)above 18. (A(0.8)=02881,A(0.4)=01554, A(1.6)=0.4452)

40.If 10% of components manufactured by company are defective if 12 components are selected at random find probability that at least 2 will be defective.