59) If y=(tanx)^x then find $\frac{dy}{dx}$

60)Find $\frac{dy}{dx}$ if y=$\cos^{-1} 4x^3 - 3x$

61) Evaluate $\int \frac{\cos\theta}{2+sin\theta\ 3+4sin\theta} d\theta$

62)Evaluate $\int \frac{dx}{4cos^2x+9sin^2x}$

63)Evaluate $\int \frac{dx}{\sqrt{13-6x-x^2}}$

64)Evaluate $\int_0^{\frac{\pi}{2}} \frac{tanx}{tanx+cotx} dx$

65)Evaluate $\int_{-1}^{1} \frac{1}{1+x^2} dx$

66) Find the order and the degree of differential equation $\frac{d^2y}{dx^2} = \sqrt[4]{1 + (\frac{dy}{dx})^2}$

67) Find the integrating factor of D.E x$\frac{dy}{dx} - y = x^2$

68) Find $\frac{dy}{dx}$ $If\ y = (\tan^{-1} x)^2$

69)Evaluate $\int \frac{dx}{9+4x^2}$

70)Evaluate $\int sin^3 x dx$

71)Find $\frac{dy}{dx}$ if $x^2 + y^2 = 4xy$

72) Find $\frac{dy}{dx}$ $if\ y = \tan^{-1} \frac{\sqrt{1+x^2}}{x} - 1$

73)$Evaluate \int \frac{dx}{5-4sinx}$

74)Evaluate $\int \frac{x \sin^{-1} x}{\sqrt{1-x^2}} dx$

75)Evaluate $\int \frac{sec^2x}{(1-tanx)(2+tanx)} dx$

76)Evaluate $\int_1^5 \frac{\sqrt[3]{9-x}}{(\sqrt[3]{9}-x+\sqrt[3]{x}+3} dx$

77) Evaluate $\int \frac{1}{3x+5} dx$

78) Evaluate $\int \frac{1}{1+cos2x} dx$

79)Find $\frac{dy}{dx}$ if y=$x^2 . e^x$

80)If f(x)=$x^2 - 2x + 5\ find\ f(1) + f(2)$

81)An unbiased coin is tossed 6 times find the probability of getting exactly 4 heads

82) Find $\frac{dy}{dx}$ $if\ x^2+y^2+xy-y=0\ at\ (1,2)$

83) Find $\frac{dy}{dx} if\ y=x^x+(sinx)^x$

84) Find $\frac{dy}{dx}$ $if\ y=\tan^{-1}(\frac{a+x}{1-ax})$

85) Evaluate $\int \frac{e^x(1+x)}{sin^2(xe^x)}$dx

86)Evaluate $\int \frac{dx}{3+2cosx}$

87) Evaluate $\int x\tan^{-1}x$dx

88)Evaluate $\int \frac{e^x}{(e^x-1)(e^x+1)}$dx

89)Evaluate $\int_0^{\frac{\pi}{2}} \frac{sinx}{sinx+cosx}$dx

90)Solve differential equation$\frac{dy}{dx}=e^xe^{-y}+xe^{-y}$

91) The probability that a person is swimmer is 2/5. What is the probability that out of 4 person contacted at random exactly 1 is a swimmer

92) If in poisson distribution P(2)=P(3), Find P(4)

93)In a certain factory producing cycle tyres there is a small change of 1 in 500 tyres to be defective. The tyres are supplied in lots of 10 using poissons distribution find the approximate number of lots containing..1) no defective 2) two defective tyres respectively in a consignment of 10000 lots

94) If the coin is tossed three times find the probability of getting exactly two heads

95) If f(x)=log (sinx) then f($\pi/2$)

96) If y=log x+3^x then find$\frac{dy}{dx}$

97)Evaluate $\int \frac{sinx}{cos^2x}$dx

98) Evaluate $\int_0^{\frac{\pi}{2}} sinx.cosxdx$

99) If $x^2+y^2=4xy$ then find dy/dx at (2,-1)

100) If x=3at^2 ,y=2at^3 find dy/dx

101) If y=$\tan^{-1}\frac{2x}{1+15x^2}$ Find dy/dx

102) Evaluate $\int \frac{sin\sqrt{x}}{\sqrt{x}}$dx

103) If y=$(\sin x)^{tanx}$ $find\ \frac{dy}{dx}$

104)Evaluate $\int e^x . sin4x\ dx$

105) Solve $x^2ydx - (x^3 + y^3)dy = 0$

106) From a differential equation of y=a cos4x + b sin4x

107) If 20% of the bolts produces by a machine are defective find the probability that out of 4 bolts drawn

1) One is defective

2) at most two are defective

107) If the probability of a bad reaction from the certain injection is 0.001 determine the chance that out of 2000 individuals more than two will get bad reaction (Given e^2=7.4)

108) If F(x)=$x^4 - 2x + 7\ find\ f(0) + f(2)$

109) If y=log($x^2 + 2x + 5$) find dy/dx

110)Evaluate $\int \frac{1-cos2x}{1+cos2x}$dx

111) Evaluate $\int \frac{1}{2x+5}$dx

112) If $x^y = e^{x-y} then\ prove\ that\ \frac{dy}{dx} = \frac{logx}{(1+logx)^2}$

113) Find $\frac{dy}{dx}\ if\ y = x^x + (sinx)^x$

114) Find $\frac{dy}{dx}\ if\ x^2 + 3xy + y^2 = 5$

115) $Evaluate\ \int \frac{\log(tan\frac{x}{2}}{sinx}$

116)Evaluate $\int \frac{1}{5+4cosx}$dx

117) $Evaluate\ \int \frac{x+1}{x(x^2-4)}\ dx$

118)Evaluate $\int \cos(logx)$dx

119)$Evaluate\ \int \frac{1}{x^2+4x+9}$dx

120) Solve $\frac{dy}{dx} + \frac{y}{x} = x^2$

121) From the differential equation of y=a sinx +b cosx

122)Find $\frac{dy}{dx}, if = (x^4 + 2x)\ sin3x$

123) $Evaluate\ \int x\ cosx\ dx$

124) Evaluate$\int [e^{2logx} + e^{xlog2}]dx$

125) Find $\frac{dy}{dx}$ $if\ 13x^2 + 2x^2y + y^3 = 1$

126) Find $\frac{dy}{dx}$ $if\ \sec^{-1}[\frac{1}{4x^3-3x}]$

127) If x=a$cos^3\theta$ $, y = asin^3\theta\ find\ \frac{dy}{dx}\ at\ \theta = \frac{\pi}{4}$

128) Evaluate$\int \frac{e^x(x+1)}{cos^2(xe^x)}$dx

129)$Evaluate\ \int \frac{sec^2xdx}{3tan^2x-2tanx-5}$dx

130)Evaluate $\int \frac{dx}{1+sinx+cosx}$

131)$Evaluate\ \int x^2cos2x\ dx$

132)$Evaluate\ \int_5^{10} \frac{dx}{(x-1)(x-2)}$

133)$Evaluate \int \frac{(10-x)^2}{x^2+(10-x)^2}$dx

134) Verify that y=log x is a solution of differential equation x$\frac{d^2y}{dx^2} + \frac{dy}{dx} = 0$

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

136) Find the root of equation cosx-xe^x=0 using regular falsi method (carru out two iteration)

137) Solve the following system of equation by using gauss elimination method

2x+3y+z=13 , X – Y – 2Z = -1 , 3X +Y +4Z =15

138)Solve the following system of equation by using Gauss seidal method

20 X +Y -2Z =17 , 3X +20Y -Z = -18 , 2x -3Y +20Z =25

139) Using Newton Raphson method to find approximate root of the equation

x logx =1.2 (carry out three iteration)

140) Find the approximate root of the equation

$x^2 + x - 3 = 0\ in\ (1,2) by\ using\ bisection\ method\ \ (Use\ two\ iteration)$

141)Solve the following system of equation by jacobi iteration method (two iteration only) 15 X +2 Y +Z=18 , 2x+20y -3Z=19 , 3X-6Y +25Z=22

142) Solve the following system of equation by using gauss seidal method (two iteration only) 5x-2y+3z=18 , x+7y-3z=22 ,2x-y+6z=22

143) Solve the following system of equation by using Gauss elimination method

6x- y -z=19 , 3x+4y+z=26 , x+2y +6z=22

144) Using newton Raphson method find the approximate value of $\sqrt[3]{100}$ (perform 4 iteration)

145) Solve the equation by using gauss seidal method (two iteration only)

10x+y+2z=13 ,3x+10y+z=14 ,2x+3y+10z=15

146) Solve the following system of equation by using gauss elimination method

X+2y+3z=14 , 3x+y+2z=11 , 2x+3y+z=11

147) using newton Raphson method find the approximate root of the equation

$x^2 + x - 5 = 0$

148) On an average 2% of the population in an area suffer from T.B what is the probability that out of 5 person chosen at random from this area atleast two suffer from T. B ?

149)10% of the component manufactured by company are defective if twelve component are selected at random find the probability atleast two will be diffective

150) The number of the road accident met with by taxi drivers follow poisson distribution with mean two out of 5000 taxi in the city find the number of the drivers

1) who doesn't meet an accident

2)who met with accident more than 3 items (given $e^{-2} = 0.353$)