University of Information Technology & Sciences (UITS)

Faculty of Science and Engineering

Department of Computer Science & Engineering

Program: B.Sc. in CSE

Mid Term Examination, Autumn-2024

Course Title: Ordinary and Partial Differential Equation

Course Code: MATH-0541121

Marks: 20 **Time: 1*(one)*hour**

(Answer all questions)

Q.No.		Marks
1a	Find the differential equation by homogeneous method, $(2x-5y)dx+(4x-y)dy=0.$	7
1b	Write Linear equation and solve by using this method, $(y\,sin2x-cosx)dx+(1+sin^2x)dy=0$	3
2a	Compute the following Bernoulli's differential equation, $dy+(4y-8y^{-3})xdx=0$	5
2b	Solve the exact differential equation, $(2xcosy+3x^2y)dx+(x^3-x^2siny-y)dy=0,\ y(0)=2.$	5