

Math-202 Semester-172 QUIZ II

NAME:

S.No.

ID:

Maximum Marks: 10

Section:18

Time Allowed: 30 minutes

- (1) Solve the homogeneous differential equation: $x dy - y dx = \sqrt{x^2 + y^2} dx$.
- (2) Find $M(x, y)$ so that the DE $M(x, y)dx + (xe^{xy} + 2xy + \frac{1}{x}) dy$ is exact. Also, show that the resultant DE is exact.
- (3) Solve the Bernoulli's type differential equation: $x y' + y = y^2 \ln(x)$.