NAME: S.No.   ID:
Maximum Marks:15   Section:6   Time Allowed: 45 minutes
(1) Find the recurrence relation for the DE:

$(x^2 + 1)y'' + xy' - y = 0$ about ordinary point $x = 0$.

(2) Find the regular or irregular singular points

$$(x^3 + 4x)y'' - 2xy' + 6xy = 0.$$

(3) Find the indicial equation and recurrence relation by Frobenius Method for the DE

$$3xy'' + y' - y = 0.$$