**Ordinary Differential Equations**

**Choose the most appropriate option (a, b, c or d).**

Q 1. The order the differential equation is

(a) one (b) two (c) four (d) zero

Q 2. The degree of the differential equation is

(a) one (b) two (c) half (d) four

Q 3. The differential equation of the family of curves y = ex(A cos x + B sin x), where A, B are arbitrary constants, has the degree n and order m. Then

(a) n = 2, m = 1 (b) n = 2, m = 2 (c) n = 1, m = 2 (d) n = 1, m = 1

Q 4. The general solution of a differential equation is y = aebx+c where a, b, c are arbitrary constants. The order of the differential equation is

(a) 3 (b) 2 (c) 1 (d) none of these

Q 5. The general solution of a differential equation is (y + c)2 = cx where c is an arbitrary constant. The order and degree of the differential equation are respectively

(a) 1, 2 (b) 2, 2 (c) 1, 1 (d) 2, 1

Q 6. The degree and order of the differential equation of the family of all parabolas whose axis is the x-axis, are respectively

(a) 1, 2 (b) 3, 2 (c) 2, 3 (d) 2, 1

Q 7. The order and degree of the differential equation of the family of circles touching the x-axis at the origin, are respectively

(a) 1, 1 (b) 1, 2 (c) 2, 1 (d) 2, 2

Q 8. The order and degree of the differential equation of the family of ellipses having the same foci, are respectively

(a) 1, 1 (b) 2, 1 (c) 2, 2 (d) 1, 2

Q 9. If y(t) is a solution of the equation (1 + t) -ty = 1 and y(0) = -1 then y(1) is

(a)  (b)  (c)  (d) 

Q 10. The solution of (x + logy)dy + y dx = 0 when y(0) = 1 is

(a) y(x – 1) + ylog y = 0 (b) y(x – 1 + logy) + 1= 0 (c) xy + ylogy + 1 = 0 (d) none of these

Q 11. The general solution of the equation (1 + y2) + is

(a)  (b) 

(c)  (d) 

Q 12. Let , x > 0. If = f(k) – f(1) then one of the possible values of k is

(a) 16 (b) 63 (c) 64 (d) 15

Q 13. If then f(x . y) is equal to (k being an arbitrary constant)

(a)  (b)  (c)  (d) none of these

Q 14. The differential equation φ(x)dy = y {φ'(x) – y}dx is changed in the form df(x, y) = 0. Then f(x, y) is

(a)  (b)  (c)  (d) 

Q 15. The solution of primitive integral equation (x2 + y2)dy = xy . dx is y = y(x). If y(1) = 1 and y(x0) = e then x0 is

(a)  (b)  (c)  (d) 

1b 2b 3c 4b 5a 6a 7a 8d 9a 10b

11a 12c 13a 14b 15c