**Indefinite Integration**

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

Q 1. If φ(x) = and then φ(x) is

(a) π - x (b) x - π (c)  (d) none of these

Q 2. Integral of f(x) = with respect to x2 is

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

Q 3. is equal to

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

Q 4. dx is equal to

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

Q 5. is equal to

(a) xx log x + k (b)  (c) xx + k (d) none of these

Q 6. Let the equation of a curve passing through the point (0, 1) be given by . If the equation of the curve is written in the form x = f(y) the f(y) is

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

Q 7. is equal to

(a) tan-1 x2 + k (b) tan-1 x2 + k (c) log (1 + x4) + k (d) none of these

Q 8. The antiderivative of w.r.t. x is

(a)  (b) sin-1(2x) + k (c) cos-1(2x).  (d) none of these

Q 9. is equal to

(a) logex + loge(1 + x2) + k (b) loge x + tan-1 x + k

(c) loge x + 2 tan-1 x + k (d) none of these

Q 10. is

(a)  (b) 

(c)  (d) none of these

Q 11. is

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

Q 12. The primitive of the function x | cos x | when < x < π is given by

(a) cos x + x sin x (b) –cos x – x sin x (c) x sin x – cos x (d) none of these

Q 13. is equal to

(a)  (b) 

(c)  (d) none of these

Q 14. dx is equal to

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

Q 15. is equal to

(a)  (b) 

(c)  (d) none of these

Q 16. is equal to

(a) e-x sec x + c (b) e-x tan x + c (c) –e-x tan x + c (d) none of these

Q 17. is equal to

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

Q 18. Let Then is

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

Q 19. If f(0) = f'(0) = 0 and f"(x) = tan2 x then f(x) is

(a) log sec x - x2 (b) log cos x + x2 (c) log sec x + x2 (d) none of these

Q 20. Let and f(0) = 0. Then f(1) is

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

Q 21. is equal to

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

**Choose the correct options. One or more options may be correct.**

Q 22. If then

(a)  (b) b = 1 (c) φ(x) = x + c (d) b = -1

Q 23. If then

(a) A = sin α (b) B = cos α (c) A = cos α (d) B = sin α

Q 24. If then

(a)  (b)  (c) C is indefinite (d) 

Q 25. If . log(1 + x2) + ψ(x) + c then

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

Q 26. where

(a) A + B = 0 (b) AB = -1 (c) A : B = -1 (d) none of these

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

11b 12b 13a 14b 15c 16d 17a 18c 19a 20b

21c 22acd 23cd 24bcd 25ac 26ac