Find the Integration of Following Question.

1. **Sin2x**
2. **Cos3x**
3. **e^{2x}**
4. **$(ax+b)^2$**
5. **Sin2x-4 e^{3x}**
6. **(4 e^{3x}+1)**
7. **$X^2(1-\frac{1}{x^2})$**
8. **(ax^2+bx+c)**
9. **$(2x^2+ e^x)$**
10. $(\sqrt{x}-\frac{1}{\sqrt{x}})^2$
11. $\frac{x^3+5x^2-4}{x^2}$
12. $\frac{x^3+3x+4}{\sqrt{x}}$
13. $\frac{x^3-x^2+x-1}{x-1}$
14. **(1-x)$\sqrt{x}$**
15. $\sqrt{x}(3x^2+2x+3)$
16. $(2x-3cosx+e^x)$
17. $(2x^2-3sinx+5\sqrt{x})$
18. **Secx(secx+tanx)**
19. $\frac{sec^2x}{cosec^2x}$
20. $\frac{2-3sinx}{cos^2x}$
21. $sin^2(2x+5)$
22. $\sin 3x \cos 4x$
23. $\cos 2x \cos 4x \cos 6x$
24. $sin^3(2x+1)$
25. sin^3xcos^3x
26. $\sin x \sin 2x \sin 3x$
27. $\sin 4x \sin 8x$
28. $\frac{1-cosx}{1+cosx}$
29. $\frac{cosx}{1+cosx}$
30. sin^4x
31. $cos^4 2x$
32. $\frac{sin^2x}{1+cosx}$
33. $\frac{cos2x-cos2\alpha}{coosx-cos\alpha}$
34. $\frac{cosx-sinx}{1+sin2x}$
35. $tan^3 2x\ sec2x$
36. tan^4x
37. $\frac{sin^3x+cos^3x}{sin^2xcos^2x}$
38. $\frac{cos2x+sin^2x}{cos^2x}$
39. $\frac{1}{sinxcos^2x}$
40. $\frac{cos2x}{(cosx+sinx)^2}$

Answer

1. $-\frac{1}{2}\cos 2x + C$
2. $\frac{1}{3}\sin 3x + C$
3. $\frac{1}{2}e^{2x} + C$
4. $\frac{1}{3a}(ax+b)^2 + C$
5. $-\frac{1}{2}\cos 2x - \frac{4}{3}e^{3x} + C$
6. $\frac{4}{3}e^{3x} + x + C$
7. $\frac{x^3}{3} - x + C$
8. $\frac{ax^3}{3} + \frac{bx^2}{2} + cx + C$
9. $\frac{2x^3}{3} + e^x + C$
10. $\frac{x^2}{3} + \log x - 2x + C$
11. $\frac{x^2}{2} + 5x + \frac{4}{x} + C$
12. $\frac{2}{7}x^{7/2} + 2x^{3/2} + 8\sqrt{x} + C$
13. $\frac{x^3}{3} + x + C$
14. $\frac{2x^{3/2}}{3} - \frac{2x^{5/2}}{5} + C$
15. $\frac{6x^{7/2}}{7} + \frac{4x^{5/2}}{5} + 2x^{3/2} + C$
16. $X^2 - 3\sin x + e^x$
17. $\frac{2x^3}{3} + 3\cos x + \frac{10x^{3/2}}{3} + C$
18. Tanx+secx+C
19. Tanx x –x+C
20. 2tanx_3sec x +C
21. $\frac{x}{2} - \frac{1}{8}\sin(4x+10)$
22. $-\frac{1}{14}\cos 7x + \frac{1}{2}\cos x$
23. $\frac{1}{4}[\frac{1}{12}\sin 12x + x + \frac{1}{8}\sin 8x + \frac{1}{4}\sin 4x]$
24. $\frac{-1}{2}\cos(2x+1) + \frac{1}{6}\cos^3(2x+1)$
25. $\frac{1}{6}\cos^6 x - \frac{1}{4}\cos^4 x$
26. $\frac{1}{4}[\frac{1}{6}\cos 6x - \frac{1}{4}\cos 4x - \frac{1}{2}\cos 2x]$
27. $\frac{1}{2}[\frac{1}{4}\sin 4x - \frac{1}{12}\sin 12x]$
28. $2\tan\frac{x}{2} - x$
29. $X - \tan\frac{x}{2}$
30. $\frac{3x}{8} - \frac{1}{4}\sin 2x + \frac{1}{32}\sin 4x$
31. $\frac{3x}{8} + \frac{1}{8}\sin 4x + \frac{1}{64}\sin 8x$
32. X-sinx
33. 2(sinx+xcosα)
34. $\frac{1}{\cos x + \sin x}$
35. $\frac{1}{6}\sec^3 2x - \frac{1}{2}\sec 2x$
36. $\frac{1}{3}\tan^3 x - \tan x + x$
37. $\sec x - \operatorname{cosec} x$
38. Tanx
39. $\log\tan x + \frac{1}{2}\tan^2 x$
40. Log(cosx+sinx)