SELF ASSESSMENT TEST -9

CLASS 10+2

INTEGRATION

1.Evaluate (a) $\int \sin 4x \sin 3x dx$. (b) $\int \sin 4x \cos 3x dx$. (c) $\int \cos 3x \cos 4x \cos 5x dx$.

2.Evaluate. (a) $\int \frac{\sin 4x}{\sin 9x \sin 5x} dx$.(b) $\int \frac{\cos 4x}{\sin 9x \cos 5x} dx$.(c) $\int \frac{1}{\sin x \cos^3 x}$.

3.Prove that $\int \frac{dx}{\sqrt{x^2 - a^2}} = \log\left|x + \sqrt{x^2 - a^2}\right| + c$.

4.Evaluate (a) $\int \frac{2x+5}{\sqrt{x^2+4}}$. (b) $\int \frac{e^{2x}}{e^{4x}+1} dx$.(c) $\int \sqrt{\frac{2+x}{2-x}} dx$.

5.Evaluate (a) $\int \frac{dx}{4+3\sin^2 x + 8\cos^2 x}$.(b) $\int \frac{dx}{\sqrt{4+2x-x^2}}$.(c) $\int \frac{dx}{5+4x+2x^2}$

6.Prove that $\int \sqrt{x^2 - a^2} dx = \frac{x}{2}\sqrt{x^2 - a^2} - \frac{a^2}{2}\log\left|x + \sqrt{x^2 - a^2}\right| + c$.

7.Evaluate (a) $\int x^3 e^x dx$.(b) $\int x^2 \sin 2x dx$.(c) $\int x^2 \log x dx$.(d) $\int (\log x)^2 dx$.

8.Evaluate (a) $\int x \cos^{-1} x dx$.(b) $\int \tan^{-1} x dx$.(c) $\int \sin^{-1} \sqrt{x} dx$.

9.Evaluate (a) $\int \sin \sqrt{x} dx$.(b) $\int x^2 \tan^{-1} x dx$.(c) $\int \log x dx$