

KENDRIYA VIDYALAYA SANGATHAN AHMEDABAD REGION**MATHS WORKSHEET : 2023 – 24****CLASS: XII****CHAPTER : INTEGRALS**

	MCQS
Q. 1: -	$\int \frac{(10x^9 + 10^x \log_e 10)}{x^{10} + 10^x} dx = \dots\dots$ <p>(a) $10^x - 10^x + c$ (b) $10^x + 10^x + c$ (c) $(10^x + x^{10})^{-1} + c$ (d) $\log(x^{10} + 10^x) + c$</p>
Q. 2: -	$\int \frac{\sin^2 x - \cos^2 x}{\sin^2 x \cos^2 x} dx$ is equal to (a) $\tan x + \cot x + C$ (b) $\tan x + \operatorname{cosec} x + C$ (c) $-\tan x + \cot x + C$ (d) $\tan x + \sec x + C$
Q. 3: -	$\int \frac{e^x (1 + x)}{\cos^2 (x e^x)} dx$ <p>(a) $-\cot(x e^x) + c$ (b) $\tan(x e^x) + c$ (c) $\tan(e^x) + c$ (d) $\cot(e^x) + c$</p>
Q. 4: -	$\int_{-1}^1 \log\left(\frac{2+x}{2-x}\right) dx = \dots$ <p>(a) e (b) 0 (c) 1 (d) 2</p>
Q. 5: -	$\int_0^{\pi/2} \log(\cot x) dx = \dots$ <p>(a) $\pi/4 \log \tan x$ (b) $\pi/8 \log 2$ (c) 0 (d) $\pi/8 \log 8$</p>

NOTE:FOR Q NO 6 TO 10 USE SEPARATE SHEET TO SOLVE AND ATTACH WITH WORKSHEET.

Q. 6: -

Evaluate: $\int \frac{e^{2x} - 1}{e^{2x} + 1} dx$

Q. 7: -

Evaluate: $\int_{\frac{\pi}{6}}^{\frac{\pi}{3}} \frac{\sqrt{\tan x}}{1 + \sqrt{\tan x}} dx$

Q. 8: -

Evaluate: $I = \int \frac{dx}{x(x^8 + 1)}$

Q. 9: -

Evaluate: $\int_0^{\frac{\pi}{2}} (2 \log \sin x - \log \sin 2x) dx$

Q. 10: -

Evaluate: $I = \int_0^{\pi/4} (\sqrt{\tan x} + \sqrt{\cot x}) dx$

SPACE FOR ROUGH WORK