

INDIAN SCHOOL MUSCAT
DEPARTMENT OF MATHEMATICS
CLASS TEST – OMR FORMAT

CLASS: XII

TOPIC: INTEGRATION

Evaluate the following integrals and choose the correct answer: Shade the answer in the OMR sheets.

1.	$\int \frac{1}{9-x^2} dx$			
	A) $\frac{1}{6} \log \left \frac{3+x}{3-x} \right + c$	B) $\frac{1}{6} \log \left \frac{3-x}{3+x} \right + c$	C) $\frac{1}{3} \log \left \frac{3+x}{3-x} \right + c$	D) $\frac{1}{3} \sin^{-1} \frac{x}{3} + c$
2.	$\int x^{-1} dx$			
	A) $\frac{x^{-2}}{-2} + c$	B) $\log x + c$	C) $\log \frac{1}{ x } + c$	D) $\frac{1}{x^2} + c$
3.	$\int \frac{1}{\sqrt{x}} dx$			
	A) $\frac{-1}{2\sqrt{x}} + c$	B) $\frac{2}{3}x^{\frac{3}{2}} + c$	C) $\frac{1}{2\sqrt{x}} + c$	D) $2\sqrt{x} + c$
4.	$\int \frac{e^x - e^{-x}}{e^x + e^{-x}} dx$			
	A) $e^x - e^{-x} + c$	B) $e^x + e^{-x} + c$	C) $\log e^x + e^{-x} + c$	D) $\log e^x - e^{-x} + c$
5.	$\int \frac{1}{1+\cos 2x} dx$			
	A) $\frac{\tan x}{2} + c$	B) $\sec x \tan x + c$	C) $2\tan x + c$	D) $\frac{\sec x \tan x}{2} + c$
6.	$\int x ^3 dx$			
	A) $\frac{-x^4}{4} + c$	B) $\frac{ x ^4}{4}$	C) $\frac{x^4}{4} + c$	D) None
7.	$\int 2\cos 4x \cdot \cos 2x dx$			
	A) $2\sin 4x \sin 2x + c$	B) $\frac{\sin 4x}{4} + \frac{\sin 2x}{2} + c$	C) $\frac{\sin 6x}{6} + \frac{\sin 2x}{2} + c$	D) $\frac{-\cos 6x}{6} + \frac{-\cos 2x}{2} + c$
8.	$\int \frac{1}{\sin^2 x \cos^2 x} dx$			

	A) $\tan x + \cot x + c$	B) $\tan x - \cot x + c$	C) $\tan x \cot x + c$	D) none
9.	$\int \sec^2(7 - 4x) dx$			
	A) $\tan(7-4x) + c$	B) $-4\tan(7-4x)+c$	C) $\frac{\tan(7-4x)}{4} + c$	D) $\frac{\tan(7-4x)}{7} + c$
10.	$\int 5^{2x} dx$			
	A) $2 \cdot 5^{2x} + c$	B) $2x \cdot 5^{2x} + c$	C) $\frac{5^{2x}}{2\log 5} + c$	D) $5^{2x} \log 5 + c$
11.	$\int \frac{e^{\tan^{-1} x}}{1+x^2} dx$			
	A) $e^{\tan^{-1} x} + c$	B) $e^{\tan^{-1} x} \cdot 2x + c$	C) $(1+x^2)e^{\tan^{-1} x} + c$	D) none
12.	$\int \sin^{-1}(\cos x) dx$			
	A) $\cos^{-1}(\cos x) + c$	B) cosec x + c	C) $\frac{\pi}{2}x - \frac{x^2}{2} + c$	D) none
13.	$\int \frac{2x+1}{x^2+x+5} dx$			
	A) $\tan^{-1}\left(x + \frac{1}{2}\right) + c$	B) $\log\left \frac{1}{x^2+x+5}\right + c$	C) $\log x^2 + x + 5 + c$	D) $\frac{1}{x^2+x+5} + c$
14.	$\int \frac{1}{x^2+2x+1} dx$			
	A) $\frac{-1}{x+1} + c$	B) $\log x^2 + 2x + 1 + c$	C) $\log\left \frac{x-1}{x+1}\right + c$	D) $\tan^{-1}(x + 1) + c$
15.	$\int \frac{\cos x - \sin x}{\cos x + \sin x} dx$			
	A) $\cos x + \sin x + c$	B) $\cos x - \sin x + c$	C) $\tan^{-1}(\cos x + \sin x) + c$	D) $\log \cos x + \sin x + c$