

CLASS: XII	INDIAN SCHOOL MUSCAT SECOND PERIODIC TEST	SUBJECT: MATHEMATICS
	SET - A	
Q. NO.	VALUE POINTS	SPLIT UP OF MARKS
1.	<p>* Applying identities $1 - \cos x = 2 \sin^2 x / 2$ and $1 + \cos x = 2 \cos^2 x / 2$ correctly</p> <p>* Simplifying $\tan^2 \frac{x}{2} = \sec^2 \frac{x}{2} - 1$</p> <p>* Final answer: $2 \tan \frac{x}{2} - x + C$</p>	<p>1 mk</p> <p>½ mk</p> <p>½ mk</p>
2.	<p>* For applying completing the square method & reducing to the form $\int \frac{dx}{(x-3)^2 + 2^2}$</p> <p>* For getting the final answer : $\frac{1}{2} \tan^{-1} \left(\frac{x-3}{2} \right) + C$</p>	<p>1 ½ mk</p> <p>½ mk</p>
3.	<p>* Applying identity $1 - \cos x = 2 \sin^2 \frac{x}{2}$ in the denominator and $\sin x = 2 \sin \frac{x}{2} \cos \frac{x}{2}$ in the numerator</p> <p>* Splitting the terms & simplifying to obtain $\int e^x (f(x) + f'(x)) dx$</p> <p>* For the final answer : $-e^x \cot \frac{x}{2} + C$</p>	<p>(½ + ½)mk</p> <p>½ mk</p> <p>½ mk</p>
4.	<p>* Applying property $\int_0^a f(x) dx = \int_0^a f(a-x) dx$ correctly</p> <p>* Adding both to get final answer : $\frac{\pi}{4}$</p>	<p>1 mk</p> <p>1 mk</p>
5.	<p>* Reducing to partial fractions form</p> <p>* Finding values of A=1, B= -5, C=4</p> <p>* Simplification & getting final answer : $\log x-1 - 5 \log x-2 + 4 \log x-3 + C$</p>	<p>1 mk</p> <p>1 ½ mk</p> <p>1 ½ mk</p>
6.	* Applying ' integration by parts' formula correctly	2 mk

	* Solving to get the final answer : $\frac{x^2}{2} \log x - \frac{x^2}{4} + C$	2 mk
7.	<p>* Solving to get $3[1 + (n-1)h]^2 - 5[1 + (n-1)h]$</p> <p>* Applying identities $\sum (n-1)^2$ and $\sum (n-1)$ correctly</p> <p>* Simplification & substituting $nh = 2$</p> <p>* Final answer : 6</p>	<p>1 ½ mk</p> <p>1 mk</p> <p>1 mk</p> <p>½ mk</p>