

CLASS: XII	INDIAN SCHOOL MUSCAT SECOND PERIODIC TEST	SUBJECT: MATHEMATICS
	SET - B	
Q. NO.	VALUE POINTS	SPLIT UP OF MARKS
1.	<p>* For applying completing the square method &amp; reducing to the form</p> $\int \frac{dx}{(\sqrt{5})^2 - (x+1)^2}$ <p>* For getting the final answer : <math>\frac{1}{2\sqrt{5}} \log \left  \frac{x+1+\sqrt{5}}{x+1-\sqrt{5}} \right  + C</math></p>	<p>1 ½ mk</p> <p>½ mk</p>
2.	<p>* Applying property <math>\int_0^a f(x)dx = \int_0^a f(a-x)dx</math> to obtain</p> $\int_0^{\pi/2} \frac{\cos x - \sin x}{1 + \cos x \sin x} dx$ <p>* Adding both to get final answer : 0</p>	<p>1 mk</p> <p>1 mk</p>
3.	<p>* Applying correct substitution : <math>x + 2 = t</math></p> <p>* For obtaining <math>(t-2)t^{1/2}</math></p> <p>* Simplification</p> <p>* Final answer : <math>\frac{2}{5}(x+2)^{5/2} - \frac{4}{3}(x+2)^{3/2} + C</math></p>	<p>½ mk</p> <p>½ mk</p> <p>½ mk</p> <p>½ mk</p>
4.	<p>* Reducing to the form <math>\frac{1}{2} \int (\sin 5x + \sin x) dx</math></p> <p>* Final answer : <math>\frac{-\cos 5x}{10} - \frac{\cos x}{2} + C</math></p>	<p>1 mk</p> <p>1 mk</p>
5.	<p>* Reducing to partial fractions form</p> <p>* Finding values of A=6/5, B=-1/5, C=1/5</p> <p>* Simplification &amp; getting final answer :</p> $\frac{6}{5} \log x+1  - \frac{1}{10} \log(x^2+4) + \frac{1}{10} \tan^{-1} \frac{x}{2} + C$	<p>1 mk</p> <p>1 ½ mk</p> <p>1 ½ mk</p>
6.	<p>* Applying ' integration by parts' formula correctly</p> <p>* Solving <math>\int \frac{x}{\sqrt{1-x^2}} dx</math> using substitution correctly</p> <p>* Solving to get the final answer : <math>(-\sqrt{1-x^2}) \sin^{-1} x + x + C</math></p>	<p>1 ½ mk</p> <p>1 mk</p> <p>1 ½ mk</p>

7.	<p>* Solving to get <math>2[1 + (n-1)h]^2 + 5[1 + (n-1)h]</math></p> <p>* Applying identities <math>\sum (n-1)^2</math> and <math>\sum (n-1)</math> correctly</p> <p>* Simplification &amp; substituting <math>nh = 2</math></p> <p>* Final answer : <math>\frac{112}{3}</math></p>	<p>1 ½ mk</p> <p>1 mk</p> <p>1 mk</p> <p>½ mk</p>
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