

TEMPLATE FOR ASSESSMENTS

1. Read Guidelines – in case of any doubt check with your mentor.
2. The final submission will have to be in soft copy in MS word as per template shared below.
3. Use Calibri font size 9
4. Keep Questions short and crisp. Word count should not exceed 20 words for questions and 8 words for options.
5. In the last row – mention the correct option as a) or b)
6. The Blooms level has been fixed – so please design question accordingly.
7. The rows heights have been fixed, so that the table size is not changed. If you have any problem, use this link to learn how to fix it [YouTube](#)

Insert the exact details within the < >

<22103>: <BMS>: <Basic Mathematics>: <Trigonometric ratios for sub-multiple angles>:

<co2_uo2.2>: <Assessments>: <Formative>

<MR. A.D.Wandhekar>

Assessment Type: Formative Assessments: Embedded questions in video

Set 1: Question No 1	Set 1: Question No 2	Set 1: Question No 3
If $\tan \frac{\alpha}{2} = \frac{1}{\sqrt{3}}$ find the value of $\sin \alpha$	If $\theta = 45^\circ$, find the value of $\cos \theta/2$	Find $\frac{\sin \theta}{1 + \cos \theta}$
Recall/ Remembering	Understanding	understanding
a) $\frac{\sqrt{2}}{3}$	a) $\sqrt{\frac{\sqrt{2}-1}{\sqrt{2}}}$	a) $\tan \theta/2$
b) $\frac{3}{2}$	b) $\sqrt{\frac{\sqrt{2}-1}{2\sqrt{2}}}$	b) $\sin \theta/2$
b) $\frac{2}{3}$	c) $\sqrt{\frac{\sqrt{2}+1}{2\sqrt{2}}}$	c) $\cos \theta/2$
c) $\frac{\sqrt{3}}{2}$	d) $\sqrt{\frac{\sqrt{2}-1}{2}}$	d) $\cot \theta/2$
Ans: <d>	Ans: <c>	Ans: <a>

Set 2: Question No 1	Set 2: Question No 2	Set 2: Question No 3
<p>If $\tan\left(\frac{A}{2}\right) = \frac{1}{\sqrt{3}}$. Find the value of $\cos A$.</p>	<p>Find $\frac{\cos A}{1 - \sin A}$</p>	<p>Find $\frac{1 + \sin \theta - \cos \theta}{1 + \sin \theta + \cos \theta}$</p>
Recall/ Remembering	Understanding	Understanding
a) $\frac{1}{2}$	a) $\frac{1 + \cot A/2}{1 - \cot A/2}$	b) $\cot \theta/2$
b) $\frac{3}{2}$	b) $\frac{1 + \tan A/2}{1 - \tan A/2}$	b) $\sin \theta/2$
c) $\frac{2}{3}$	c) $\frac{1 + \cos A/2}{1 - \sin A/2}$	c) $\cos \theta/2$
d) $\frac{\sqrt{3}}{2}$	d) $\frac{1 + \cot A/2}{1 - \tan A/2}$	d) $\tan \theta/2$
Ans: <a>	Ans: 	Ans: <d>

Assessment Type: Summative: End of CO: in LMS

Summative: Q 1	Summative: Q 2	Summative: Q 3	Summative: Q 4	Summative: Q 5
Find $\tan A$, if $\tan A/2=0.6$	Find $\tan\left(\frac{\pi}{4} + \frac{A}{2}\right)$	If $A=30^\circ$, find $\sin 15^\circ$	If $\tan \frac{\theta}{2} = \frac{2}{3}$. Find the values of $2\sin \theta + 3\cos \theta$	Find $\frac{\cos A}{1 + \cos A}$
Recall/ Remembering	Understanding	Understanding	Application	Understanding
a) 6/15	a) $\cot A + \tan A$	a) $\frac{\sqrt{2-\sqrt{3}}}{2}$	a) 4	a) $\frac{1}{2}\left[1 + \tan^2 \frac{A}{2}\right]$
b) 8/15	b) $\sec A + \tan A$	b) $\frac{\sqrt{2+\sqrt{3}}}{2}$	b) 3	b) $\frac{1}{2}\left[1 - \tan^2 \frac{A}{2}\right]$
c) 15/8	c) $\cos A - \sin A$	c) $\frac{\sqrt{3-\sqrt{2}}}{3}$	c) 5	c) $\frac{1}{2}\left[1 + \cot^2 \frac{A}{2}\right]$
d) 15/6	d) $\cos A + \cot A$	d) $\frac{\sqrt{3+\sqrt{2}}}{3}$	d) 1	d) $\frac{1}{2}\left[1 - \cot^2 \frac{A}{2}\right]$
Ans: <c>	Ans: 	Ans: <a>	Ans: 	Ans:

Assessment Type: Practice Worksheets: End of CO: in LMS/ downloadable PDF

If students have access to laptop/ desktop – they can answer it on LMS, else download it and answer it and file it for later use. They can also copy the question in their notebook in case the space provided is insufficient.

1. Best suited for subjective questions.
2. Numerical problems
3. Short answer questions

A. Question Space Prove that $\frac{\cot \theta + \operatorname{cosec} \theta - 1}{\cot \theta - \operatorname{cosec} \theta + 1} = \cot \frac{\theta}{2}$	B. Question Space Prove that $\frac{1 + \cos A}{\sin A} = \cot \left(\frac{A}{2} \right)$
A. Answer Space	B. Answer Space

C. Question Space

Prove that $\frac{\sec A - 1}{\sec A} = 2 \sin^2 A/2$

D. Question Space

Prove that $\operatorname{cosec} A - \cot A = \tan A/2$

C. Answer Space**D. Answer Space****E. Question Space**

Prove that $\frac{\sin A/2 + \sin A}{1 + \cos A/2 + \cos A} = \tan A/2$

F. Question Space

Prove that

$$\frac{1 + \cos \theta - \sin \theta}{\cos \theta + \sin \theta - 1} = \cot \frac{\theta}{2}$$

E. Answer Space

F. Answer Space

G. Question Space

If $\tan A/2 = 1/\sqrt{2}$ find $\sin A$

H. Question Space

Prove that $\frac{1 - \sin \theta}{1 + \sin \theta} = \cot^2 \left(\frac{\pi}{4} - \frac{\theta}{2} \right)$

G. Answer Space

H. Answer Space