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>: <Inverse trigonometric functions>: <co2_uo_2.4>: <Assessments>: <Formative>

<Mrs. Sujata Patil>

Assessment Type: Formative Assessments: Embedded questions in video

Set 1: Question No 1	Set 1: Question No 2	Set 1: Question No 3
$\sin^{-1} x + \cos^{-1} x =$	**Which one of the following is true**	**Evaluate** $cos\left(\sin^{-1}\frac{5}{13}\right)$
Recall/ Remembering	**Understanding**	**Application**
a) $\frac{\pi}{4}$	**a)** $\sin(\cos^{-1} x) = \cos(\sin^{-1} x)$	**a) 12/5**
b) $\frac{\pi}{2}$	**b)** $\sec(\tan^{-1} x) = \tan(\sec^{-1} x)$	**b) 12/13**
c) 1	**c)** $\cos(\tan^{-1} x) = \tan(\cos^{-1} x)$	**c) 13/12**
d) -1	**d)** $\tan(\cos^{-1} x) = \cos(\tan^{-1} x)$	**d) 5/12**
Ans: <b>	**Ans: <a>**	**Ans: <b>**

Set 2: Question No 1	Set 2: Question No 2	Set 2: Question No 3
Evaluate $\cos^{-1}\left(\frac{1}{2}\right)+2\sin^{-1}\left(\frac{1}{2}\right)$	**2** $\sin^{-1}x$ **=**	**Find the principal value of** $\tan^{-1}\infty-\sin^{-1}\frac{1}{\sqrt{2}}$
Recall/ Remembering	**Understanding**	**Application**
a) π/2	**a)** $\sin^{-1}[2x\sqrt{1-x^2}]$	**a)** $\tan^{-1}1$
b) π/3	**b)** $\sin^{-1}(\sqrt{1-x^2})$	**b)** $\tan^{-1}(\frac{1}{2})$
c) 2π/3	**c)** $\cos^{-1}(2x\sqrt{1-x^2})$	**c)** $\cot^{-1}(-1)$
d) π	**d)** $\sin^{-1}x$	**d)** $\sin^{-1}(1)$
Ans: <c>	**Ans: <a>**	**Ans: <a>**

Assessment Type: Summative: End of CO: in LMS

Summative: Q 1	Summative: Q 2	Summative: Q 3	Summative: Q 4	Summative: Q 5
$\cos^{-1}(-x) =$	**Evaluate** $\tan^{-1}\frac{1}{7}+\tan^{-1}\frac{1}{13} =$	**Find the principal value of** $\cos\left[\frac{\pi}{2}-\sin^{-1}\frac{1}{2}\right]$	**Evaluate** $\sin^{-1}\frac{3}{5}-\sin^{-1}\frac{8}{17} =$	**For ΔABC if A=** $\tan^{-1}2$**, B=** $\tan^{-1}3$ **, then C=**
Recall/ Remembering	**Understanding**	**Application**	**Understanding**	**Application**
a) $\cos^{-1}x$	**a)** $\tan^{-1}\frac{2}{9}$	**a)** $\frac{1}{2}$	**a)** $\cos^{-1}\frac{85}{84}$	**a) π/6**
b) $-\cos^{-1}x$	**b)** $\cot^{-1}\frac{2}{9}$	**b) 1**	**b)** $\cos^{-1}\frac{84}{85}$	**b) π/4**
c) $\pi - \cos^{-1}x$	**c)** $\tan^{-1}\frac{9}{2}$	**c)** $\frac{-1}{2}$	**c)** $\sin^{-1}\frac{85}{84}$	**c) π/3**
d) $\cos^{-1}(1/x)$	**d)** $\tan^{-1}1$	**d) 0**	**d)none of the above**	**d) 5π/6**
Ans: <c>	**Ans: <a>**	**Ans: <a>**	**Ans: <b>**	**Ans: <b>**

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 $\boldsymbol{Verify}$: $\mathbf{\sin^{-1}\left\{\frac{1}{2}\right\} + \sin^{-1}\left\{\frac{\sqrt{3}}{2}\right\} = \sin^{-1}(1)}$	**B. Question Space** **If $\mathbf{\tan^{-1}(1) + \tan^{-1}(x) = 0}$ find x**
A. Answer Space	**B. Answer Space**

C. Question Space **Verify that** $\sin^{-1}\left(\frac{-1}{\sqrt{2}}\right) + 2\cos^{-1}\left(\frac{-1}{\sqrt{2}}\right) + 3\sin^{-1}(-1) = -\frac{\pi}{4}$	**D. Question Space** **Prove that** $\tan^{-1}\left(\frac{1}{4}\right) + \tan^{-1}\left(\frac{2}{9}\right) = \cot^{-1}(2)$
C. Answer Space	**D. Answer Space**
E. Question Space **Prove that** $\tan^{-1}\left(\frac{1}{2}\right) + \sin^{-1}\left(\frac{1}{\sqrt{10}}\right) = \cos^{-1}\left(\frac{1}{\sqrt{2}}\right)$	**F. Question Space** **Prove that** $\sin^{-1}\left(\frac{3}{5}\right) - \cos^{-1}\left(\frac{5}{13}\right) = \cos^{-1}\left(\frac{56}{65}\right)$

E. Answer Space	**F. Answer Space**
G. Question Space **Prove that** $\sin^{-1}\left(\frac{5}{13}\right) + \sin^{-1}\left(\frac{7}{25}\right) = \cos^{-1}\left(\frac{253}{325}\right)$	**H. Question Space** **Prove that** $\cos^{-1}\left(\frac{4}{5}\right) - \cos^{-1}\left(\frac{12}{13}\right) = \cos^{-1}\left(\frac{63}{65}\right)$

G. Answer Space	H. Answer Space