| Set 1: Question No 1 | Set 1: Question No 2 | Set 1: Question No 3 |
|---|---|---|
| The value of $\cos 105^0$ | ∠A and ∠B both are obtuse angles, sinA = $\frac{5}{13}$ and cosB = $\frac{-4}{5}$ find the value of sin (A + B). | $If\ \tan x = \frac{1}{11}\ and\ \tan y \frac{5}{6}$ $find\ \tan(x+y)$ |
| Recall/ Remembering | Understanding | Application |
| a) $\frac{\sqrt{3}+1}{2\sqrt{2}}$ | a ) $-\frac{16}{65}$ | a) 1 |
| b) $\frac{\sqrt{3}-1}{2\sqrt{2}}$ | b ) $\frac{16}{65}$ | b) -1 |
| c) $-\frac{\sqrt{3}+1}{2\sqrt{2}}$ | c) $\frac{65}{16}$ | c) π/4 |
| d) $\frac{1-\sqrt{3}}{2\sqrt{2}}$ | d) $-\frac{65}{16}$ | d) π/2 |
| Ans: <d> | Ans: <b> | Ans: <a> |

| Set 2: Question No 1 | Set 2: Question No 2 | Set 2: Question No 3 |
|---|---|---|
| $\tan\left(\frac{\pi}{4}+A\right)$ = | The value of $\frac{\tan 66^0+\tan 69^0}{1-\tan 66^0 \tan 69^0}$ | If $\sin\theta = \frac{15}{17}$, $\theta$ lies in the second quadrant. Find $\tan\theta$ |
| **Recall/ Remembering** | **Understanding** | **Application** |
| a) $\frac{\cos A-\sin A}{\cos A+\sin A}$ | a) 1 | a) $-\frac{15}{8}$ |
| b) $\frac{\cos A+\sin A}{\cos A-\sin A}$ | b) -1 | b) $-\frac{5}{8}$ |
| c) 1 | c) 0 | c) $-\frac{8}{15}$ |
| d) $\frac{1-\tan A}{1+\tan A}$ | d) not defined | d) $\frac{15}{8}$ |
| Ans: <b> | Ans: <b> | Ans: <a> |

| Q 1 | Q 2 | Q 3 | Q 4 | Q 5 |
|---|---|---|---|---|
| If A and B both are obtuse angles and sinA = 5/ 13, cosB = -4/5 then find the quadrant of angle A+B. | $\frac{\sin 3\theta}{\sin \theta} - \frac{\cos 3\theta}{\cos \theta} =$ | sin $(\theta + \pi/6) -$ sin $(\theta - \pi/6)$ | $If \tan(x+y) = \frac{1}{2}$ $and \ \tan(x-y) = \frac{1}{3}$ $find \tan 2y.$ | sin 105° + cos 105° = |
| Recall/ Remembering | Understanding | Application | Understanding | Application |
| a) first quadrant | a) 2 | a) sin θ | a) 1 | a) $\sqrt{2}$ |
| b) second quadrant | b)2sin θ | b) cos θ | b)1/7 | b) $\frac{1}{\sqrt{3}}$ |
| c)third quadrant | c) 1 | c) sin 2 θ | c)1/6 | c) $\frac{1}{\sqrt{2}}$ |
| d) fourth quadrant | d)4 | d) cos 2 θ | d)-1 | d) 1 |
| Ans: <d> | Ans: <a> | Ans: <b> | Ans: <b> | Ans: <c> |

| Set 1: Question No 1 | Set 1: Question No 2 | Set 1: Question No 3 |
|---|---|---|
| $\cos 2\theta \; is \; not \; equal \; to$ | If sinA = 0.4 find sin3A | If sec Θ =-13/5 and Θ lies in second quadrant, find tan2Θ |
| Recall/ Remembering | Understanding | understanding |
| a) $2cos^2\,\theta - 1$ | a) 0.256 | a)120/119 |
| b) $1 - 2sin^2\,\theta$ | b)0.944 | b) -7/15 |
| c) $\frac{1-tan^2\theta}{1+tan^2\theta}$ | c)0.56 | c) 1/5 |
| d) $\frac{1+tan^2\theta}{1-tan^2\theta}$ | d)1.17 | d)1/2 |
| Ans: <d> | Ans: <b> | Ans: <a> |

| Set 2: Question No 1 | Set 2: Question No 2 | Set 2: Question No 3 |
|---|---|---|
| If sin A = 0.4, find cos 2A | If cos $\alpha$ = 0.4, find cos 3$\alpha$ | If cos A= ½,find the value of cos 2A |
| Recall/ Remembering | Understanding | Understanding |
| a) 0.68 | e) 0.446 | a)1/2 |
| b) 0.944 | b) -0.944 | b)1/3 |
| c)0.56 | c)0.56 | c)1/4 |
| d)1.17 | d)1.17 | d)-1/2 |
| Ans: <a> | Ans: <b> | Ans: <d> |

| Q 1 | Q 2 | Q 3 | Q 4 | Q 5 |
|---|---|---|---|---|
| tan 2A= | $\frac{1+sec2\theta}{tan2\theta}=$ | If A= $45^0$ , find cos 3A | Find sin A. sin(60-A) sin(60+A) | If A = 30° Find<br>3sin A – 4 $\sin^3$A |
| Recall/ Remembering | Understanding | Understanding | Application | Understanding |
| a) $\frac{1-tan^2A}{1+tan^2A}$ | a) tan Θ | a)0 | a)cos3A | a)0 |
| b) $\frac{1+tan^2A}{1-tan^2A}$ | b) cotΘ | b)1 | b)1/4 sin3A | b)1 |
| c) $\frac{2tanA}{1-tan^2A}$ | c) sinΘ | c)$\frac{1}{\sqrt{2}}$ | c) 4cos3A | c)1/4 |
| d) $\frac{2tanA}{1+tan^2A}$ | d) cosΘ | d) - $\frac{1}{\sqrt{2}}$ | d) 4sin3A | d)1/2 |
| Ans: <c> | Ans: <b> | Ans: <a> | Ans: <b> | Ans: <b> |

| 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 $\theta = 45°$, 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 |
|---|---|---|
| If $\tan\left(\frac{A}{2}\right) = \frac{1}{\sqrt{3}}$ . Find the value of *cos A.* | Find $\frac{\cos A}{1-\sin A}$ | Find $\frac{1+\sin\theta-\cos\theta}{1+\sin\theta+\cos\theta}$ |
| Recall/ Remembering | Understanding | Understanding |
| a) $\frac{1}{2}$ | a) $\frac{1+\cot A/2}{1-cotA/2}$ | b) $\cot\theta/2$ |
| *b)* $\frac{3}{2}$ | b) $\frac{1+\tan A/2}{1-tanA/2}$ | b) $\sin\theta/2$ |
| c) $\frac{2}{3}$ | c) ) $\frac{1+\cos A/2}{1-sinA/2}$ | c) $\cos\theta/2$ |
| d) $\frac{\sqrt{3}}{2}$ | d) ) $\frac{1+\cot A/2}{1-tanA/2}$ | d) $\tan\theta/2$ |
| Ans: <a> | Ans: <b> | Ans: <d> |

| Q 1 | Q 2 | Q 3 | Q 4 | Q 5 |
|---|---|---|---|---|
| Find tanA, if tanA/2=0.6 | Find tan $\left(\frac{\pi}{4}+\frac{A}{2}\right)$ | If A= $30^0$ , find sin 15° | If tan $\frac{\theta}{2}=\frac{2}{3}$. Find the values of 2sin $\theta$ + 3cos $\theta$ | 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) $\frac{\sqrt{3\mp\sqrt{2}}}{3}$ | d) 1 | d) $\frac{1}{2}\left[1-cot^2\frac{A}{2}\right]$ |
| Ans: <c> | Ans: <b> | Ans: <a> | Ans: <b> | Ans: <b> |

| Set 1: Question No 1 | Set 1: Question No 2 | Set 1: Question No 3 |
|---|---|---|
| $\cot(2\pi - \theta) =$ | Find the value of cot $\left(\frac{19\pi}{6}\right)$ | Find the value of $\cos(3660°)$ |
| Recall/ Remembering | Understanding | Application |
| a) $\cot\theta$ | a ) $-\sqrt{3}$ | a) $\frac{1}{2}$ |
| b) $\tan\theta$ | b ) $\sqrt{3}$ | b) 2 |
| c) $-\tan\theta$ | c) $\frac{1}{\sqrt{3}}$ | c) $\frac{-1}{2}$ |
| d) $-\cot\theta$ | d) $-\frac{1}{\sqrt{3}}$ | d) 0 |
| Ans: <d> | Ans: <b> | Ans: <a> |

| Set 2: Question No 1 | Set 2: Question No 2 | Set 2: Question No 3 |
|---|---|---|
| $\text{cosec}\ (\frac{\pi}{2}-\theta)$= | Find the value of $\cot(-405^0)$ | Without using calculator find the value of sin(-390$^0$) |
| **Recall/ Remembering** | **Understanding** | **Application** |
| a) sin θ | a) 1 | a) $\frac{-1}{2}$ |
| b) –sin θ | b)$-1$ | b) ½ |
| c) cosec θ | c) 2 | c) 1 |
| d)sec θ | d) 0 | d) 0 |
| Ans: <d> | Ans: <b> | Ans: <a> |

| Q 1 | Q 2 | Q 3 | Q 4 | Q 5 |
|---|---|---|---|---|
| $\sin\left(\frac{3\pi}{2}+\theta\right)=$ | sin $(-765°)$ | Find the value of $\tan(225^\circ)\cdot\cot(405^\circ)+\tan(765^\circ)\cdot\cot(765^\circ)$ | Find the value of $\frac{\sin(10^0)}{\cos(80^0)}$ | Without using calculator find the value of sin $(150^0)$ – tan$(315^0)$ +cos$(300^0)$ + sec$^2$( $360^0$) |
| Recall/ Remembering | Understanding | Application | Understanding | Application |
| a) $\sin\theta$ | a) $-\frac{1}{\sqrt{2}}$ | a) $\sqrt{2}$ | a) $-1$ | a)2 |
| b) $-\sin\theta$ | b) $\sqrt{2}$ | b) 2 | b) 1 | b)1 |
| c) $\cos\theta$ | c) $\frac{1}{\sqrt{2}}$ | c) 0 | c) $-\frac{1}{\sqrt{2}}$ | c)3 |
| d) $-\cos\theta$ | d) $-\sqrt{2}$ | d) 1 | d) 0 | d)0 |
| Ans: <d> | Ans: <a> | Ans: <b> | Ans: <b> | Ans: <c> |

| Set 1: Question No 1 | Set 1: Question No 2 | Set 1: Question No 3 |
|---|---|---|
| Find 2 cos $75^0 \cos 15^0 =$ | Solve: $\frac{\sin 8A + \sin 2A}{\cos 8A + \cos 2A}$ | If sin $80^0 + \sin 50^0 = 2\sin\alpha\cos\beta$, then $\alpha$ and $\beta$ are |
| Recall/ Remembering | Understanding | Application |
| a) 1 | a)tan A | a)$60^0 and\ 20^0$ |
| b) $\frac{1}{2}$ | b) cot5A | b) $60^0 and\ 15^0$ |
| c)-1 | c) tan5A | c) $65^0 and\ 15^0$ |
| d) $\frac{-1}{2}$ | d) tan3A | d) $65^0\ and\ 20^0$ |
| Ans: <b> | Ans: <c> | Ans: <c> |

| Set 2: Question No 1 | Set 2: Question No 2 | Set 2: Question No 3 |
|---|---|---|
| **2sin3x cos 2x=** | **Solve:** $\frac{sin5x+sin3x}{cos5x+cos3x}$ | **Express** $cos30^0$ **sin** $20^0$ **as the sum or difference** |
| **Recall/ Remembering** | **Understanding** | **Understanding** |
| **a)sin5x+ sin x** | **a)cot x** | **a)2(** $\sin 50^0 - sin10^0$ **)** |
| **b) sin3x+sinx** | **b) cot4x** | **b)** $\frac{1}{2}$**(** $\sin 50^0 - sin10^0$ **)** |
| **c) sin7x+sinx** | **c) tan x** | **c) (** $\sin 50^0 - sin10^0$ **)** |
| **d) sin4x+sinx** | **d) tan4x** | **d) (** $\sin 50^0 + sin10^0$ **)** |
| **Ans: <a>** | **Ans: <d>** | **Ans: <b>** |

| Q 1 | Q 2 | Q 3 | Q 4 | Q 5 |
|---|---|---|---|---|
| The value of $\cos 75^0 cos15^0$ | If $2\sin 40^0 \cos 10^0$ = sin A +sin B Then A,B equal to | The value of $\sin 10^0 sin30^0 sin50^0$ $\sin 70^0$ is equal to | Evaluate $\frac{cos6\theta + cos2\theta}{sin6\theta + sin2\theta}$ | Evaluate $\frac{sin19^0 + cos11^0}{cos19^0 - sin11^0}$ |
| Recall/ Remembering | Understanding | Application | Understanding | Application |
| a) $\frac{1}{2}$ | a) $50^0 and 20^0$ | a) $\frac{1}{8}$ | a) cot4θ | a) 1 |
| b) $\frac{1}{\sqrt{2}}$ | b) $70^0 and 50^0$ | b) $\frac{1}{16}$ | b) cot2 θ | b) $\frac{1}{\sqrt{2}}$ |
| c) $\frac{1}{4}$ | c) $60^0 and 10^0$ | c) $\frac{\sqrt{3}}{8}$ | c) tan θ | c) $\sqrt{3}$ |
| d)1 | d) $50^0 and 30^0$ | d) $\frac{\sqrt{3}}{16}$ | d) tan4 θ | d) 0 |
| Ans: <c> | Ans: <d> | Ans: <b> | Ans: <a> | Ans: <c> |

| 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**

| Q 1 | Q 2 | Q 3 | Q 4 | 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> |