MASTER’S P.U COLLEGE, HASSAN, 573201.

KCET ONLINE TEST-19, MAY-2020  **MATHEMATICS** **TIME: 45Mins MARKS: 30**

**TOPIC**: **INVERSE TRIGONOMETRIC FUNCTIONS.**

**KEY**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 |
| **B** | **A** | **A** | **D** | **A** | **B** | **C** | **C** | **D** | **C** | **C** | **C** | **B** | **C** | **C** |
| 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 |
| **D** | **B** | **C** | **C** | **C** | **B** | **C** | **A** | **B** | **A** | **C** | **A** | **A** | **A** | **D** |

**HINTS AND SOLUTIONS**

1. (b)  = 

.

1. (a) Let **** ⇒  .....(i)

Now  .....(ii)

From (i), ⇒ 

⇒ .

1. (a)  ⇒ .
2. (d) We take  then 

 

Put  in 

we get .

1. (a) If  Then 

Here  

 .

1. (b) ; 

; .

1. (c) ⇒ ⇒ 

⇒  ⇒ 

⇒  ⇒ 

, which does not satisfy the equation

∴  is only the solution.

1. (c) 



##### C

## B

*c*

*b*

*A*

**





.

1. (d) 









⇒ .

1. (c)  ⇒ 



⇒ 



But  does not satisfy the given equation.

No solution will exist.

1. (c) Given that 

Now .

1. (c) 

⇒⇒ 

⇒ .

1. (b) We have 2 ⇒ = 

or .

1. (c) We have  

=== 

=  

∴ The least value is 

and since 

∴ The greatest value is .

1. (c)  

.

1. (d)  ⇒ ⇒ 

⇒ ⇒ .

1. (b) Putting 





.

1. (c) **** ⇒  ⇒ 

⇒  ⇒ .

1. (c) .
2. (c) Let 

and 

= == .

1. (b) Let  and 

Hence 

.

1. (c) We have   (Putting 

 

.

1. (a) (Putting 

= 

.

1. (b) We have 

But ∴ and 

⇒ is the unique solution.

1. (a) We have 

 =

 

= = .

1. (c) 

is defined when  ..(i)

is defined when or  …..(ii)

From (i) and (ii),  or and –1.

Hence number of solution is 2.

1. (a) Given equation is  ⇒ 

⇒  

which is not possible as .

1. (a) ****⇒  ⇒  ⇒ .
2. (a) 

 

.

1. (d) **** ⇒ ****

****⇒  .