**16.09.2020 FN 2 SESSION**

1. The value of x satisfying the equation sin x + 1/ sin x = 7/2√3 is :

Sin 0 = 0

Sin 30 = 1 / 2

Sin 45 = 1 /

Sin 60 = / 2

/ 2) + / 2) = 7 / 2

2. If Sin @ - Cos @ = 0 and 0 < @ <= pi / 2 , then @ is equal to

3. If sec x = P, cosec x=Q, then:

P2 + Q2 = PQ

P2 + Q2 = P2Q2

P2 – Q2 = P2Q2

P2 +Q2 = -P2Q2

4. The value of tan (180 + θ)\* tan(90- θ) is: tan θ\* cot θ \* = (1 / tan θ) \* (tan θ) = 1.

tan (180 + θ) = tan θ

tan (180 – θ) = -tan θ

tan(90- θ) = cot θ

tan(90+ θ) =- cot θ

5. If we convert sin(-566)° to same trigonometrically ratio of a positive angle lying between 0° and 45° then we get:

Cos 26° -cos 26° Sin 26° -sin 26°

2. If Sin @ - Cos @ = 0 and 0 < @ <= pi / 2 , then @ is equal to

Sin @ = Cos @

Sin @ / Cos @ = 1

Tan @ = 1

@ = 45Deg or pi / 4

Sin 0deg 30 deg 45deg 60 deg 90deg

0 1 / 2 1/root2 root3 / 2 1

Cos 1 root3 / 2 1/root2 1 / 2 0

Tan 0 1 / root3 1 root3 Not defined

3. If sec x = P, cosec x=Q, then:

Sin x = 1 / Cosec x

Cos x = 1 / Sec x

Tan x = 1 / Cot x

Sine ,Cosine ,Secant , Tangent

Cos x = 1 / P ; Sin x = 1 / Q

Sin2 x +Cos2 x = 1

(1 / P)2 + (1 /Q)2 = 1

(1 / P2) + (1 /Q2 )= 1

Q2 + P2 / P2Q2 = 1

Q2 + P2 = P2Q2

5. If we convert sin(-566)° to same trigonometrically ratio of a positive angle lying between 0° and 45° then we get:

Sin(-566) = - sin 566 = - sin (540+26) = sin 26.

Sin 0 to 180 wave will be on the +ve Y axis

Sin 180 to 360 wave will be on the -ve Yaxis

Sin 360 to 540 wave will be on the +ve Y axis

Sin 540 to 720 wave will be in the -ve Y axis

6. Find the value of log m + log m2 + log m3 + …….. + log mn

a) (n(n+1) / 2 ) b) mn / 2 c) ((n(n+1))\* log m) / 2 d) n(n+1) log m2

log m + log m2 + log m3 + …….. + log mn

log m + 2 log m + 3 log m + ……+ n log m.

log m ( 1 + 2 + 3 + ………..+ n)

log m \* (n\*(n+1)) / 2

7. 3 of the 6 vertices of a regular hexagon are chosen at random. The probability that the triangle formed using these vertices are equilateral.

No of vertices will be equal to no of sides in that polygon

In hexagon we have 6 vertices and 6 sides.

1 2

6 3

5 4

Total no of ways you can draw a triangle = 6 C3 ways =20 ways

Favourable no of triangles will be equilateral = 2

Probability =fav outcomes / total outcomes= 2 / 20 = 1 / 10.