**EXERCISE 1 [A]**

1. **Which of the following relation is correct?**

(A)  (B)  (C)  (D) 

1. **The radius of the circle whose arc of length 15 cm makes an angle of ¾ radian at the centre is**

(A) 10 cm (B) 20 cm (C)  (D) 

1. **If A lies in the second quadrant and 3 tan A+4=0 then the value of 2 cot A-5cosA+sinA is equal to**

(A)  (B) (C) (D) 

1. **If the perimeter of the sector of a circle is *m* times the radius of the circle, then the angle subtended by the sector**

(A)  (B) (C)  (D) 

1. **Which of the following number(s) is rational-**

(A)  (B)  (C)  (D) 

1. **Ifa semi perimeter ofa circle of radius r equals perimeter of a sector of the same circle subtending and angle** **at the center then,**

(a)  (b) area of the mentioned sector = 

(c) length of the corresponding arc =  (d) all of these

1. **Which of the following is not equal to**?

(A)  (B) (C)  (D) 

1. 

(A) 1 (B)0 (C)  (D) 

1. **The value of the expression**

(A)  (B) (C) 1 (D) None of these

1. If , then 
2. 0 (B)1 (C) 2 (D) 1/2
3. If , then  equal to

(A) 0 (B)1 (C) 1/6 (D) 6

1. If , then is equal to
2. 2 (B) (C)  (D) 
3. If , then 

(A) 2 (B)4 (C) 8 (D) 16

1. If  and , then
2.  (B) (C)  (D) 
3. 

(A)  (B) (C)  (D) 

1. 

(A)  (B) (C)  (D) None of these

1. is equal to

(A)  (B)1 (C)  (D) 0

1. 

(A) 1/2 (B)-1/2 (C)  (D) 1

1. 

(A)  (B) (C)  (D) 

1. If and , then  is equal to -

(A)  (B) (C)  (D) None of these

1. 

(A)  (B) (C)  (D) 

1. If , then 

(A)  (B) (C)  (D) 

1. If , then can be

(A)  (B) (C)  (D) None of these

1. 

(A)  (B) (C)  (D) 

1. if , then

(A)  (B)

(C)  (D) None of these

1. 

(A) 0 (B) (C) -1 (D) 1

1. If , where A and B are positive acute angles, then A+B =

(A)  (B) (C)  (D) 

1. 

(A) 1 (B)0 (C) 1/2 (D) 2

1. 

(A) 1/16 (B)1/32 (C) 1/8 (D) 1/4

1. 

(A)  (B) (C)  (D) 

1. 

(A)  (B) (C)  (D) None of these

1. If , then the value of is

(A)  (B) (C)  (D) 

1. , then 

(A)  (B) (C)  (D) 

1. ,

(A)  (B) (C)  (D) None of these

1. ,

(A)  (B) (C)  (D) 

1. is equal to

(A)  (B) (C)  (D) 

1. 

(A)  (B) (C)  (D) None of these

1. If , then 

(A) 7 (B)8 (C) 11 (D) None of these

1. The minimum value of is

(A) 7 (B)8 (C) 11 (D) None of these

1. If , then 

(A) -1 (B)0 (C) 1 (D) 2

1. If , and , then lies in which quadrant-

(A) First (B)Second (C) Third (D) Fourth

1. If  and If  are roots of the equation then is equal to-

(A)  (B) (C)  (D) 

1. 

(A) 1/2 (B)2 (C) 4 (D) 8

1. If , then equals

(A) 1/8 (B)1/4 (C)  (D) 

1. 

(A) 2 (B) (C) 4 (D) 

1. 

(A) -3/16 (B)5/16 (C) 3/16 (D) -5/16

1. 

(A) 1/2 (B)1/4 (C) 1/6 (D) 1/8

1. The maximum value of is attained at

(A)  (B) (C)  (D) 

1. Minimum value ofis -

(A) 1 (B)2 (C) 3 (D) 4

1. If, then 

(A)  (B) (C)  (D) 

**EXERCISE 1 [B]**

1. The expression  simplifies to

(A)  (B) (C)  (D) 

1. If where a, b are positive reals numbers and 1st quadrant then the value of is

(A)  (B)

(C)  (D) 

1. If then, for all permissible values of x, f(x) is

(A) -1 (B)0 (C) 1 (D) not a constant function

1. The expressionsimplifies to

(A) a rational which is not integral (B)a surd

(C) a natural which is prime (D) a natural which is not composite

1. There is an equilateral triangle which side 4 and a circle with the centre on one of the vertex of that triangle. The arc of that circle divides the triangle into two parts of equal area. How long is the radius of the circle?

(A)  (B) (C)  (D) 

1. If the expression, is simplified, then it simplifies to

(A)  (B) (C)  (D) 

1. The value of the expression , wherever defined, is equal to

(A) 0 (B)5 (C) 7 (D) 9

1. The area of the circle in which a chord of length 2a makes an angle at its centre is

(A)  (B)

(C)  (D) 

1. Exact value of is equal to :

(A) 1/2 (B)3/4 (C) 1 (D) none

1. Each of the four statements given below are either True or False.

**I.** **II.**

**III.** **IV.**

Indicate the correct order of sequence, where ‘T’ stands for true and ‘F’ stands for false.

(A) F T F T (B)F F T T (C) T F FF (D) F T F F

1. The two legs of a right triangle are . The length of its hypotenuse is

(A) 1 (B)2 (C)  (D) some function of 

1. If , then 

(A)  (B)y (C) 1-y (D) 1+y

1. Let be a regular hexagon inscribed in a circle of unit radius. Then the product of the lengths of the line segments , and  is

(A)  (B) (C) 3 (D) 

1. The value of  is

(A)  (B) (C)  (D) 

1. Which of the following statements is not correct?

(A)  (B)

(C)  (D) 

1. The value of 

(A)  (B) (C)  (D) 

1. If , then  is equal to

(A) 0 (B) (C)  (D) 1

1. is equal to

(A)  (B) (C)  (D) 

1. The value of is

(A) positive (B)negative (C) zero (D) 

1. is

(A) 0 (B)1/2 (C) 1 (D) 

1. If  , then 

(A) 1 (B)2 (C) 3 (D) 4

1. If and , then 

(A)  (B) (C)  (D) 

1. If then is equal to

(A)  (B) (C)  (D) 

1.  , where , is true if and only if

(A)  (B) (C)  (D) 

1. Let .Then

(A) only when  (B) only when 

(C) for all real (D) None of these

**26.** If 

(A) 0 (B) 2 (C) 1 (D) -1

**27**. If 

(A) 0 (B) 1 (C) 2 (D) 3

**28**. Let A,B and C are the angles of plain triangle and 

(A) 7/9 (B) 2/9 (C) 1/3 (D) 2/3

**29**. 

(a)  (b) 

(c)  (d) none of these

**30**. 

(a)  (b)  (c)  (d) None of these

**31**.  

(A) 1 (B) 2 (C)  (D) None of these

**32**. For all real values of is equal to

(A)  (b)  (c)  (d) None of these

**33**. If 

(A)  (b)  (c)  (d) 

**34**. 

(A)0 (B) -1 (C)  (D) 1

**35**. 

(A)  (B)  (C)  (D) 

**36**. 

(A)  (B)  (C)  (D) 

**37**. Maximum value of 

(A)0 (B) 1 (C)2 (D)3