MASTER’S P.U COLLEGE, HASSAN, 573201.

KCET ONLINE TEST-28, MAY-2020  **MATHEMATICS**  **TIME: 45Mins MARKS: 30**

**TOPIC**: **COMPLEX NUMBERS, QUADRATIC EQUESTION, SEQUENCE & SERIES. DATE: 25/05/2020**

1. **If  and  is a complex number such that  then the value of  is equal to**

(a)  (b) 

(c)  (d) 

1. **If be three non-zero complex number, such that  and  suppose that , then  is equal to**

(a)  (b) 

(c)  (d) 

1. **Let  and  be the two non-zero complex numbers such that  and . Then  is equal to**

(a)  (b) 

(c)  (d) 

1. **If , then **

(a)  (b) 

(c)  (d) 

1. **If  and  are two pairs of conjugate complex numbers, then  equals**

(a) 0 (b) 

(c)  (d) 

1. **Let be complex numbers such that and . Then *arg* *z* equals**

(a)  (b) 

(c)  (d) 

1. **If  then the value of is**

(a)  (b) 

(c)  (d) 

1. **If  and , then  is equal to**

(a)  (b) 

(c)  (d) 

1. **The value of is**

(a)  (b) 1

(c)  (d) 

1. **Let  is an imaginary cube roots of unity then the value of**

**  is**

(a)  (b) 

(c)  (d) None of these

1. ** is an imaginary cube root of unity. If   then least positive integral value of *m* is**

(a) 6 (b) 5

(c) 4 (d) 3

1. **The value of ‘’for which , where  and  are the roots of , is**

(a) 4 (b) 0

(c) 6 (d) 2

1. **For what value of the sum of the squares of the roots of  is minimum**

(a) 3/2 (b) 1 (c) 1/2 (d) 11/4

1. **The product of all real roots of the equation  is**

(a) – 9 (b) 6 (c) 9 (d) 36

1. **For the equation  if one of the root is square of the other, then *p* is equal to**

(a)  (b) 1

(c) 3 (d) 

1. **If *α*, *β* be the roots of  and  are the roots of , then**

(a)  (b) 

(c)  (d) 

1. **If  is the quadratic equation whose roots are *a* – 2 and *b* – 2 where *a* and *b* are the roots of , then**

(a)  (b) 

(c)  (d) None of these

1. **The value of ‘*a*’ for which one root of the quadratic equation  is twice as large as the other, is**

(a)  (b) 

(c)  (d) 

1. **If  are in G.P., then the equations  and  have a common root if  are in**

(a) A.P. (b) G.P.

(c) H.P. (d) None of these

1. **The value of ‘*a*’ for which the equations  and  have a common root is**

(a) 3 (b) 1

(c) – 2 (d) 2

1. **Jairam purchased a house in Rs. 15000 and paid Rs. 5000 at once. Rest money he promised to pay in annual installment of Rs. 1000 with 10% per annum interest. How much money is to be paid by Jairam**

(a) Rs. 21555 (b) Rs. 20475

(c) Rs. 20500 (d) Rs. 20700

1. **Let be squares such that for each , the length of a side of  equals the length of a diagonal of . If the length of a side of is, then for which of the following values of  is the area of  less then **

(a) 17 (b) 18

(c) 19 (d) 10

1. **If  are the sums of  terms of  A.P.'s whose first terms are  and common differences are  respectively, then **

(a)  (b) 

(c)  (d) None of the above

1. **If  are in arithmetic progression and , then **

(a) 909 (b) 75

(c) 750 (d) 900

1. **If the roots of the equation  are in A.P., then their common difference will be**

(a)  (b) 

(c)  (4) 

1. **If the first term of a G.P. is unity such that  is least, then the common ratio of G.P. is**

(a)  (b) 

(c)  (d) None of these

1. ** are the roots of the equation  and  are the roots of the equation . If  form an increasing G.P., then **

(a) (3, 12) (b) (12, 3)

(c) (2, 32) (d) (4, 16)

1. 

(a)  (b) 

(c)  (d) None of these

1. **If  then   is**

(a)  (b) 

(c)  (d) 

1. **The first term of an infinite geometric progression is  and its sum is 5. Then**

(a)  (b) 

(c)  (d) 