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KCET ONLINE TEST-11, APRIL-2020  **MATHEMATICS**  **TIME: 45Mins MARKS: 30**

**TOPIC**: **MATRICES, DETERMINANTES, COMPLEX NUMBERS, QUADRATIC EQUATIONS, SEQUANCE AND SERIES, L.P.P, LINEAR INEQUALITIES, M.REASONING.**

1. **For the following linear programming problem : minimize  subject to the constraints ,  , the solution is**

(a) (0, 2) and (1, 1) (b) (0, 2) and 

(c) (0, 2) and (1, 6) (d) (0, 2) and (1, 5)

1. **For the L.P. problem *Max* subject to    and **

(a)  (b)  (c)  (d) All the above

1. **A vertex of the linear inequalities ,  and , is**

(a) (1, 0) (b) (1, 1) (c)  (d) 

1. **The maximum value of , subject to the conditions  is**

(a) 130 (b) 120 (c) 40 (d) 140

1. ** is logically equivalent to**

(a)  (b)  (c)  (d) 

1. **Which of the following is the inverse of the proposition : “If a number is a prime then it is odd.”**

(a) If a number is not a prime then it is odd

(b)If a number is not a prime then it is odd

(c) If a number is not odd then it is not a prime

(d) If a number is not odd then it is a prime

1. **The value of  is**

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

1. **If the roots of equation  are real, then**

(a)  (b)  (c)  (d) 

1. **If , then **

(a) 6 (b) 10 (c) – 18 (d) – 15

1. **If  is a complex number such that  then**

(a) is purely real (b) is purely imaginary

(c) Either is purely real or purely imaginary (d) None of these

1. **The argument of the complex number is**

(a)  (b)  (c)  (d) 

1. **If the  and  term of an arithmetic sequence are *a* , *b* and  respectively, then the value of  +  **

(a) 1 (b)  (c) 0 (d) ½

1. **The solution of  is**

(a)  (b)  (c)  (d) 

1. **If the *n*th term of geometric progression  is , then the value of *n* is**

(a) 11 (b) 10 (c) 9 (d) 4

1. 

(a)  (b)  (c)  (d) 

1. **If **

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

1. **If  the value of *x* which satisfies the equation , is**

(a)  (b)  (c)  (d) 

1. 

(a)  (b)  (c)  (d) 0

1. **If is a cube root of unity, then **

(a)  (b)  (c)  (d) 

1. **If  are positive integers, then the determinant  is divisible by**

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

1. **If and then**

(a)  are in A. P. (b) are in G. P. (c) are in H. P. (d) None of these

1. **If  has non zero solution, then **

(a) – 1 (b) 0 (c) 1 (d) – 3

1. **The value of *a* for which the system of equations   has a non zero solution is**

(a) – 1 (b) 0 (c) 1 (d) None of these

1. **If , then **

(a) Unit matrix (b) Null matrix (c) A (d) – A

1. **If and , then *x* =**

(a) –1 (b) 1 (c) 0 (d) 2

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

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

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

(a)  (b)  (c)  (d) 

1. **For the matrix , which of the following is correct**

(a)  (b)  (c)  (d) 

1. **If a matrix *A* is such that  then its inverse is**

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

1. **If  and , and  then =**

(a) 5 (b) 25 (c) –1 (d) 1.