**QUESTION PAPER -SETB**

**CLASS XI**

**SESSION: 2021-22**

**Mathematics (Code-041)**

**Term-1**

**Time Allowed: 90 minutes Maximum Marks: 40**

**General Instructions:**

1. **This question Paper contains three sections-A, B and C. Each part is compulsory.**
2. **Section –A has 20 MCQs, attempt any 16 out of 20.**
3. **Section –B has 20 MCQs, attempt any 16 out of 20.**
4. **Section –C has 10 MCQs, attempt any 8 out of 10**
5. **There is no negative marking.**
6. **All questions carry equal marks.**

**SECTION A**

**In this section , attempt any 16 questions out of Questions 1-20.**

**Each Question is of 1 mark weightage.**

**1. The median of the data 3, 9, 5, 3, 12, 10, 18, 4, 7, 19, 21 is**

**(a) 9 (b) 3 (c) 6 (d) 4**

**2. The range of signum function is the set**

**(a){-1, 0, 1} (b) R (c) R+ (d) N**

**3.**  **The standard deviations for first 10 natural numbers is**

**(a) 5.5 (b) 3.87 (c) 2.97 (d) 2.87**

**4. The modulus of is**

**(a) - 1 (b) 1 (c) 2 (d) 0**

**5. The additive inverse of is**

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

**6. The conjugate of is**

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

**7. Let A= {1, 2} and B= { 7, 8, 9}, the number of relations from A to B are**

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

**8. The set {x: x**

**(a) [-5,7] (b) (-5,7) (c) (-5,7] (d) [-5,7)**

**9. The sum of the x- intercept and y- intercept of the line is**

**(a) 5 (b) 4 (c) 1 (d)**

**10. If**

**(a) 5 (b) 4 (c) 6 (d) 0**

**11. The mean of first five prime numbers is**

**(a) 6.5 (b) 2 (c) 5.6 (d) 28**

**12. The value of [2.5] + – 4 is equal to**

**(a) -4 (b) 8 (c) 2.5 (d) 2**

**13. The range of the function f(x) = is**

**(a) R (b) (1, (c) [0, ) (d) {1,0}**

**14. If = , then the value of is**

**(a) 1 (b) 4 (c) 0 (d) 2**

**15. If x, y, z are positive integers then the value of expression (x+y)(y+z)(z+x) is**

**(a) =8xyz (b) >8xyz (c) <8xyz (d) =4xyz**

**16. Express in the form of**

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

**17. In an A.P. the pth term is q and the term is**

**(a) –p (b) p+q (c) p (d) p-q**

**18. If the sum of n terms of an A.P. is given by Sn= , then the common difference of the A.P. is**

**(a) 3 (b) 2 (c) 6 (d) 4**

**19. The third term of G.P. is 4. The product of its first 5 terms is**

**(a) 64 (b) 256 (c) (d) None of these**

**20. If (4x+3 , y)= (3x+5 , -2) , the value of x + y is**

**(a) 16 (b) 12 (c) 0 (d) 6**

**SECTION B**

**In this section , attempt any 16 questions out of Questions 21-40.**

**Each Question is of 1 mark weightage.**

**21. The slope of the line**

**(a) -2 (b) (c) 2 (d) 0**

**22. The point of intersection of the lines is**

**(a) (2,2) (b) (1, (c) (2, 1) (d) (1,0)**

**23. For what values of x are the numbers ( ,**

**(a) 1, 16 (b) 1,10 (c) 0,16 (d) 0, 10**

**24. The distance of the point (1,-3) from the line**

**(a) 26 (b) (c) (d) 13**

**25 . A U = ?**

**(a) (b) A (c) 0 (d) none of these**

**26. The G.M. of two numbers is 8 and their A.M. is 10. The numbers are**

**(a) 12, 4 (b) 16, 8 (c) 4, 32 (d) 16, 4**

**27. The domain of the function *f* given by *f (x) =***

**(a) R – {3, 2} (b) R – {–3, -2} (c) R**

**(d) R – {3, – 2}**

**28. The additive identity of is**

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

**29. The range of the data 12,15,18,21 is**

**(a) 3 (b) 9 (c) 6 (d) 4**

**30. The value of is**

**(a) i (b) 1 (c) 19 (d) –i**

**31. Measures of dispersion are**

**(a) Range and Quartile deviation only.**

**(b) Quartile deviation and mean deviation only.**

**(c) Mean deviation only .**

**(d) Range, Quartile deviation, mean deviation and standard deviation.**

**32. The mean deviation about the mean of the data 5, 3, 7, 8, 4, 9 is**

**(a) 6 (b) 8 (c) 12 (d) 2**

**33. Equation of x axis is**

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

**34.**

**(a) -6 (b) 4 (c) -15 (d) 2**

**35. The domain of is**

**(a) (-4, 4) (b) [- 4 ,- (c) R (d) [-4,4]**

**36. If A and B are two sets , then A equals to**

**(a) A (b) B (c) (d) A**

**37. If the points A (x,-1) , B (2,1) and C(4,5) are collinear , then x is**

**(a) 1 (b) -4 (c) -5 (d) -2**

**38. The value of is**

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

**39. If**

**(a) e (b) 0 (c) -1 (d) 1**

**40. The multiplicative inverse of 4-3i is**

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

**SECTION C**

**In this section, attempt any 8 questions .**

**Each Question is of 1 mark weightage.**

**Questions 46-50 are based on a CASE-STUDY.**

**41. Angle between the lines**

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

**42. The sum of the series 1++ + …………….. is**

**(a) (b) 1 (c) 2 (d)**

**43. The value of is**

**(a) 1 (b) 2 (c) -1 (d) -2**

**44. The equation of the straight line passing through the point (3, 2) and perpendicular to the line y=x is**

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

**45. The value of is**

**(a) 0 (b) 2 (c) -1 (d) does not exist**

**CASE STUDY:**

**Let X= {Ram, Geeta, Akbar} be the set of students of class XI. Who are in school hockey team. Let Y= {Geeta, David, Ashok} be the set of students from class XI who are in the school football team.**

**Based on the above information answer the following.**

**46. Y is equal to**

2. **X**
3. **X**
4. **Y**

**47. Identify the singleton set**

1. **X**
2. **X**
3. **Y**
4. **Y**

**48. X( XY) is equal to**



1. **Y**
2. **X**
3. **X**

**49. Let p and q denote the number of elements in the power sets of X and Y respectively, then the value of p is**

1. **8**
2. **16**
3. **0**
4. **3**

**50. The set XY is**



**(a) {Ram, Geeta, David}**

**(b) {Ram, Akbar, David, Geeta, Ashok}**

**(c) {Ram, David, Ashok, Geeta}**

**(d) {Geeta}**