

**SSC PUBLIC EXAMS – TELANGANA STATE****MODEL PAPER-1**

SUB : Maths,

Class: X

Paper-I

Time : 2 hours 45 min

Max. Marks : 40

**Instructions:**

- Read the following Question paper and understand every Question thoroughly without writing anything. 15 Minutes time is allotted for this.
- Answer all the Questions from the given “four” Section
- Write answers to the objective type Questions (Section-IV) on answer sheet. But at same place.
- In Section-III, every Question has internal choice. Answer to anyone alternative.

**Section-I****I. Answer all the following Questions.**

Each Questions carries 1 Mark

7x1=7

- Find the value of  $\log_3 243$ ?
- ‘A’ and ‘B’ are two sets then write  $A \cap B$  in set bulder form?
- If 1 is the zero value of polynomial  $x^2+kx-5$  then find ‘K’?
- For what value of ‘K’ the pair of equation  $3x+4y+2=0$  and  $9x+12y+k=0$  represent coincident lines.
- Find the nth term of the given arithmetic progression A.P=3, 1, -1, -3, -5.....
- If (8,-4) and (-4, 8) are the two points on the line find the slope of the line?
- If  $b^2-4ac>0$  in  $ax^2+bx+c=0$  then what can you say about roots of the equation? ( $a \neq 0$ )

**Section-II****II. Answer all the following Questions.**

Each Questions carries 1 Mark

6x2=12

- How will you show that  $(17 \times 11 \times 2) + (17 \times 11 \times 5)$  is a composite number? Explain?
- Answer the following questions and justify your answer.
  - Are sets of multiples of 8 is finite set or infinite? Justify you answer.
  - $A = \{1, 2, 7, 8\}$  and  $B = \{2, 4, 7, 9\}$  are disjoint sets justify your answer?
- Cheek whether  $\frac{1}{4}$  and -1 are the zeros of polynomial  $P(x) = 4x^2 + 3x - 1$ .
- Length of the rectangular is 5 units more than its breadth then find the perimeter of Rectangular? Express your answer in form of polynomials?

12. If  $x^2+y^2=25xy$ , then prove that  $2 \log(x+y)=3\log_3+\log x+\log y$ .
13. Show that the points (3,-2), (-2,8) and (0,11) are collinear.

**Section-III**

**4x4=16**

**i. In this section, every question has internal choice**

**ii. Answer the any one alternative.**

**iii. Each question carries 4 marks**

14. A) Prove that  $\sqrt{2} + \sqrt{3}$  is an irrational number [OR]  
 B) Show that any positive odd integer is of the form  $4q+1$  or  $4q+3$ , where 'q' is some integer.
15. A) Draw a graph for the polynomial  $P(x)=x^2-3x-4$  and find its zeros from the graphs [OR]  
 B) Check whether the following pair of equations is consistent  $4x-6y=15$ ,  $2x-3y=5$ .
16. A) Solve the following pair of linear equations using elimination method.  

$$3x+2y=11$$

$$2x+3y=4$$
 [OR]
- B) The 4<sup>th</sup> term of a geometric progression is  $2/3$  and the seventh term is  $16/81$  find the geometric series.
17. A) Find the co-ordinates of the points of trisection of the line segment joining (2,-6) and (-4,8) [OR]  
 B) If A(-5,7), B(-4,-5), C(-1,-6) and D(4,5) are the vertices of a quadrilateral then find the area of the quadrilateral ABCD.

- i. Choose the correct answer and write the corresponding alphabet (A,B,C,D) in the given answer booklet.
- ii. Answer all questions and write then at the same place in your booklet.
- iii. Each question carries 1/2 marks.
18. The rational number whose decimal expansions terminates. The denominator of prime factor be.
- a) Only 5                      b) only 2                      c) only 2 or 5                      d) None
19.  $A=\{1,2,3,4,5,6\}$   $B=\{2,4,6\}$  then which is correct.
- a)  $B \in A$                       b)  $A \in B$                       c)  $BCA$                       d)  $ACB$
20.  $p, q$  are zero values of polynomial  $p(x)=2x^2-7x+3$  then  $p^2+q^2=$ \_\_\_\_\_
- a) 1/4                      b) 37/4                      c) 4/3                      d) None
21.  $\log_3^7=x$  then
- a)  $3x=7$                       b)  $x^3=7$                       c)  $3^x=7$                       d)  $7^x=3$
22. The mean of  $a-2, a, a+2$  be \_\_\_\_\_
- a)  $3a$                       b)  $a$                       c)  $-2$                       d)  $4$
23.  $(3,-5)$   $(-7,4)$  and  $(10,-2)$  are vertices of triangle. Then find the centroid of triangle.
- a)  $3a$                       b)  $a$                       c)  $-2$                       d)  $4$
24. The  $n^{\text{th}}$  term of G.P  $t_n=2(0.5)^{n-1}$  then  $r=$ \_\_\_\_\_
- a) 5                      b) 1/7                      c) 2                      d) 0.5
25. Slope of x-axis \_\_\_\_\_
- a) 0                      b) -1                      c) 1                      d) 8
26. Which polynomial have zero values of 2 and 3.
- a)  $x^2-5x-6$                       b)  $x^2+5x-6$                       c)  $x^2-5x+6$                       d)  $x^2+5x+6$
27. No of prime factors of 24
- a) 6                      b) 8                      c) 4                      d) 1