FIRST QUARTERLY TEST AUGUST 2024

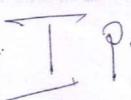
SURTECT - BASIC MATHEMATICS (75) CLASS . I PUC

TI	ME: 1 Hr. 30 Mins	Separate 1. Bristo A		R JU Fest 1946			
		PAI	RT-A	West and the second			
I	Answer all the qu	estions :		S Access of the Control of the Contr	5x1=5		
1)	The real part of 4-i is						
	a) -1	b) 4	c) 1	d) -4			
2)	$(x^{\frac{1}{2}} + y^{\frac{1}{2}})(x^{\frac{1}{2}} - y^{\frac{1}{2}})$	$y^{\frac{1}{2}} =$					
	a) $\sqrt{x} - \sqrt{y}$	b) y-x	c) x + y	d) x-y			
3)	The average age of 10 boys in a class in 13 years. The sum of their ages is						
	a) 13	b) 130	c) 10	d) 103			
4)	The value of $\sin^2 \theta$	$-\sec^2\theta$ is					

	a) $\sec^2 \theta - 1$	b) $\csc^2 \theta - 1$	c) $\tan^2 \theta - 1$	d) $\cot^2 \theta - 1$	
5)	The co-ordinates of the reflection of the point $(-3, 5)$ with respect to y-axis is				
	a) $(5, -3)$	b) (-5, 3)	c) (3, 5)	d) $(-3, 5)$	

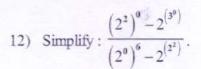
For question numbers 6 to 10 choose appropriate answer from the answers below: 5x1=5 $[4, 576, \sin^2 A, 6, \cos^2 A, 51]$

- The LCM of 72 and 64 is . 6)
- The value of $(5)^{5^0} + (5^2)^0$ is _____.
- The marks obtained in mathematics are 88, 71, 35, 33 and 28. The average marks is
- The value of $\tan^2 A (1 \sin^2 A)$ is 10) The distance of the point (3, 4) from the x-axis is



PART-B

III Answer any Four questions: 11) If the product of two numbers is 216 and their LCM is 36. Find their HCF.





- 13) Ramesh has 4 Kannada, 5 English and 6 Maths books. Each Kannada book cost ₹ 8.50, English ₹ 10.50 and Maths ₹ 15.00. Find the average cost per book of all three subjects.
- 14) Ram and Rahim went up a hill at a speed of 20 Kmph and both of them came tumbling down the same distance at a speed of 30 Kmph. Find the average speed for the round trip.
- 15) The angles of a triangle are in the ratio 3:4:5. Find them in radians.
- 16) Find the value of 'k' if the distance between (2k, 5) and (-k, -4) is $\sqrt{90}$.

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IV Answer any FOUR questions:

4x3 = 12

- 17) Prove that $\sqrt{2}$ is an irrational number.
- 18) Find the greatest integer which divides 42, 52, 86 leaving remainder 6, 4 and 2 respectively.
- 19) If $3^x = 5^y = 15^z$. Show that z(x + y) = xy.
- 20) A book seller bought 228 note books at an average price of ₹ 8.50 in which 80 books he bought at ₹ 7.50 each and 84 books at ₹ 10.50 each. Find the price of the remaining books per unit.
- 21) Prove that $\frac{1}{1+\sin A} + \frac{1}{1-\sin A} = 2\sec^2 A$.
- 22) Find the co-ordinates of the point P which divides the line joining the points (2, 4) and (-3, 10) in the ratio 1: 4 internally.

PART-D

V Answer any TWO questions:

2x5 = 10

- 23) Find the number of positive divisions and sum of all positive divisors of 825.
- 24) If $a^x = bc$, $b^y = ca$, $c^z = ab$, show that xyz = x + y + z + 2.
- 25) Solve: $2^{2x} 6.2^x + 8 = 0$.
- 26) If $x = \arcsin A \cos B$, $y = \arcsin A \sin B$ and $z = \arccos A$ then prove that $\frac{x^2}{a^2} + \frac{y^2}{b^2} + \frac{z^2}{c^2} = r^2$.
- 27) Show that the points (2, -2), (8, 4), (5, 7) and (-1, 1) are the vertices of a rectangle.
