

SRI RAGHAVENDRA TUITION CENTER

CENTUM - 5 MARK - UNIT - 2

10th Standard

Maths

Date : 27-Mar-24

Reg.No. :

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Exam Time : 02:00:00 Hrs

Total Marks : 115

23 x 5 = 115

I. ANSWER ALL QUESTION

- 1) Find the greatest number that will divide 445 and 572 leaving remainders 4 and 5 respectively.
- 2) Find the HCF of 396, 504, 636.
- 3) Find the HCF of 252525 and 363636
- 4) If $p_1^{x_1} \times p_2^{x_2} \times p_3^{x_3} \times p_4^{x_4} = 113400$ where p_1, p_2, p_3, p_4 are primes in ascending order and x_1, x_2, x_3, x_4 are integers, find the value of p_1, p_2, p_3, p_4 and x_1, x_2, x_3, x_4
- 5) If $l^{\text{th}}, m^{\text{th}}$ and n^{th} terms of an A.P are x, y, z respectively, then show that $x(m - n) + y(n - l) + z(l - m) = 0$
- 6) In an A.P., sum of four consecutive terms is 28 and their sum of their squares is 276. Find the four numbers.
- 7) A mother divides Rs. 207 into three parts such that the amount are in A.P. and gives it to her three children. The product of the two least amounts that the children had Rs. 4623. Find the amount received by each child.
- 8) The sum of three consecutive terms that are in A.P. is 27 and their product is 288. Find the three terms.
- 9) The ratio of 6^{th} and 8^{th} term of an A.P is 7:9 Find the ratio of 9^{th} term to 13^{th} term
- 10) Priya earned Rs.15,000 in the first month. Thereafter her salary increased by Rs. 1500 per year. Her expenses are Rs. 13,000 during the first year and the expenses increases by Rs. 900 per year. How long will it take for her to save Rs. 20,000 per month
- 11) The 13^{th} term of an A.P is 3 and the sum of the first 13 terms is 234.Find the common difference and the sum of first 21 terms.
- 12) In a G.P. the 9^{th} term is 32805 and 6^{th} term is 1215. Find the 12^{th} term
- 13) A man joined a company as Assistant Manager. The company gave him a starting salary of Rs. 60,000 and agreed to increase his salary 5% annually. What will be his salary after 5 years?
- 14) Find the sum to n terms of the series $5 + 55 + 555 + \dots$
- 15) Find the sum to n terms of the series $0.4 + 0.44 + 0.444 + \dots$ to n terms
- 16) Find the sum of the Geometric series $3 + 6 + 12 + \dots + 1536$
- 17) How many terms of the series $1^3 + 2^3 + 3^3 + \dots$ Should be taken to get the sum 14400?
- 18) Rekha has 15 square colour papers of sizes 10 cm, 11 cm, 12 cm, ..., 24 cm. How much area can be decorated with these colour papers?
- 19) Find the sum of the series $(2^3 - 1) + (4^3 - 3^3) + (6^3 - 15^3) + \dots$ to (i) n terms, (ii) 8 terms
- 20) If $l^{\text{th}}, m^{\text{th}}$ and n^{th} terms of an A.P are x, y, z respectively, then show that $(x - y)n + (y - z)l + (z - x)m = 0$
- 21) Find the sum to n terms of the series $3 + 33 + 333 + \dots$ to n terms
- 22) Find the sum of $15^2 + 16^2 + 17^2 + \dots + 28^2$
- 23) Find the sum of the following series $10^3 + 11^3 + 12^3 + \dots + 20^3$