विद्या सर्वार्थि साधिका

ANANDALAYA

PERIODIC TEST – 3

Class : VIII

Subject: Mathematics M.M: 30

Date : 03-01-2023 Time: 1Hr. 30 min.

General Instructions:

i) This question paper contains 16 questions and all questions are compulsory

ii) Questions 1 – 6 in Section A are multiple choice type questions carrying 1 mark each.

iii) Questions 7 – 13 in Section B are short-answer type questions carrying 2 marks each.

iv) Questions 14 – 15 in Section C are short -answer type questions carrying 3 marks each.

v) Question 16 in Section D is long-answer type question carrying 4 marks.

SECTION-A

1. Find : a) $(-2)^3$ b) $(-5)^3$ (1)

2. What will be the digit in the ones place of cube number of: a) 24 b) 39 (1)

3. Express 27 as the sum of 3 consecutive odd numbers. (1)

4. Is 500 a perfect cube? Give reason for your answer. (1)

5. If Soham borrowed ₹ 4000 from a bank, and paid a compound interest of ₹ 2083, find the amount he had to pay the bank. (1)

6. Write which of the following expressions are monomials? (1)
   a) $14xy$ b) $x^4 + 25$ c) $6pq + 11qr + 4rp$ d) 8

SECTION-B

7. Find the cube root of 91125. (2)

8. What is the smallest number by which 392 must be multiplied so that the product is a perfect cube? Find the cube root of the product. (2)

9. The population of a village has a constant growth of 5%. If its present population is 33,015, what was the population two years ago? (2)

10. The marked price of an article is ₹ 850 and the retailer gives a discount of 6% on that article. Find the sale price of the article. (2)

11. Write the terms and their coefficient for the expressions: (2)
    a) $\frac{x}{2} - xy$ b) $7a^2 - a + 16$

12. Using the suitable identity solve: (2)
    a) $153^2 - 147^2$ b) 105×109

13. Simplify: (2)
    a) $(5x + 11)^2 - (5x - 11)^2$
    b)$(x + y)(x - y) + (y + z)(y - z) + (z + x)(z - x)$

SECTION-C

14. Find the sum that ₹ 2048 will amount to in 18 months at 12% per annum compounded half yearly. (3)

15. Find the product using suitable identities: (3)
    a) $(3x^2 + 7y^2)(3x^2 - 7y^2)$ b) $(3a^2 - 8b^2)(3a^2 - 8b^2)$ c) $(11x + 9)(11x + 15)$

SECTION-D

16. Find the amount and compound interest if Harshita borrowed a sum of ₹ 4000 for $2\frac{1}{2}$ years at the rate of 8% per annum compounded annually. (4)