ST. ARNOLD'S CENTRAL SCHOOL, PUNE
PERIODIC TEST – 1 , 2018 – 19
SUBJECT : MATHEMATICS

STD :IX **M.M : 50**

SECTION – A

Question numbers 1 to 4 carry 1 mark each

1. Rationalise the denominator of $\frac{1}{2\sqrt{5}}$ (1)
2. Find the value of the polynomial $2x^2 - 3x + 5$ at x = -2 (1)
3. Find the semi perimeter of a triangle with sides 200m , 240m and 360m. (1)
4. Find $(8)^{\frac{2}{3}}$ (1)

SECTION – B

Question numbers 5 to 8 carry 2 marks each

5. Find : $(\sqrt{7} + \sqrt{3})(\sqrt{7} - \sqrt{3})$ (2)
6. Find the remainder when : $4x^3 - 3x^2 + 4x - 2$ is divided by (x -2) (2)
7. Express 0.353535... in the form $\frac{p}{q}$ where p and q are integers, $q \neq 0$. (2)
8. Find the value of k if (-1) is a zero of the polynomial $x^2 + 8x + k$. (2)

SECTION – C

Question numbers 9 to 14 carry 3 marks each

9. Write the decimal expansion of $\frac{6}{7}$ and say what kind of decimal expansion it has. (3)
10. Represent $\sqrt{5.6}$ geometrically. (3)
11. The perimeter of an isosceles triangle is 32 cm. The ratio of equal sides to the base is 3:2. Using Heron's formula find the area of the triangle. (3)
12. Evaluate $(102)^3$ using identity. (3)
13. Factorise : $16x^2 - 40x + 25$ (3)
14. Without actually calculating the cubes, find the value of $(-14)^3 + 8^3 + 6^3$ (3)

SECTION – D

Question numbers 15 to 19 carry 4 marks each

15. Find the value of a and b if $\frac{7+\sqrt{5}}{7-\sqrt{5}} - \frac{7-\sqrt{5}}{7+\sqrt{5}} = a + \frac{7}{11}\sqrt{5}\, b$ (4)

16. Simplify $(2x - 5y)^3 - (2x + 5y)^3$ (4)

17. Two adjacent sides of a parallelogram measures 5 cm and 3.5 cm. One of the diagonals measures 6.5 cm. Find the area of the parallelogram. (4)

18. If 2x + 3y = 12 and xy = 6, find the value of $8x^3 + 27y^3$ (4)

19. Find the cost of levelling the ground in the form of a triangle having the sides 26 m, 28 m, and 30 m. at the rate of Rs 3 per m^2 (4)