STD 9 Maths
Home Test-2

Total Marks : 25

*** Choose the right answer from the given options. [1 Marks Each]** [10]

1. π is:
   (A) A whole number. (B) An integer. (C) An irrational number. (D) A rational number.

2. The value of $\sqrt[4]{\sqrt[3]{2^2}}$ is:
   (A) $2^{\frac{1}{6}}$ (B) 2^6 (C) 2^{-6} (D) $2^{\frac{-1}{6}}$

3. $(1296)^{\frac{-1}{4}} =$
   (A) $-\frac{1}{6}$ (B) -6 (C) 6 (D) $\frac{1}{6}$

4. If $x = (7 + 4\sqrt{3})$ than $\left(x + \frac{1}{x}\right) = ?$
   (A) 49 (B) 14 (C) 48 (D) $8\sqrt{3}$

5. The value of $\sqrt{20} \times \sqrt{5}$ is :
   (A) 10 (B) $4\sqrt{5}$ (C) $2\sqrt{5}$ (D) $20\sqrt{5}$

6. On simplification $(3 + \sqrt{3})(3 - \sqrt{3})$ gives:
   (A) $-2\sqrt{3}$ (B) 0 (C) 16 (D) 6

7. The simplest from of $0.\overline{36}$ is:
   (A) $\frac{36}{100}$ (B) $\frac{4}{11}$ (C) $\frac{4}{9}$ (D) None of these.

8. If $\sqrt{2} = 1.4142$, then $\sqrt{\frac{\sqrt{2}-1}{\sqrt{2}+1}}$ is equal to:
   (A) 0.323223223223223 (B) $\sqrt{180}$ (C) $\sqrt{31}$ (D) $\sqrt{196}$

9. A number is an irrational if and only if its decimal representation is
   (A) non-terminating (B) non-terminating and repeating
   (C) non-terminating and non-repeating (D) terminating

10. The simplest rationalisation factor of $\sqrt[3]{500}$ is:
    a. $\sqrt{5}$
    b. $\sqrt{3}$
    c. $\sqrt[3]{5}$
    d. $\sqrt[3]{2}$

*** Answer the following short questions. [2 Marks Each]** [6]

11. How many irrational numbers lie between $\sqrt{2}$ and $\sqrt{3}$? Find any three irrational numbers lying between $\sqrt{2}$ and $\sqrt{3}$.

12. Multiply:
    $6\sqrt{15}$ by $4\sqrt{3}$

13. Write the following in decimal form and say what kind of decimal expansion has.
    $\frac{7}{25}$

*** Answer the following questions. [3 Marks Each]** [9]

14. Represent geometrically the following numbers on the number line:
    $\sqrt{5.6}$

15. Find the values of a and b in the following:
    $\frac{5+2\sqrt{3}}{7+4\sqrt{3}} = a - 6\sqrt{3}$

16. Represent geometrically the following numbers on the number line:
    $\sqrt{8.1}$

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