M A T H E M A T I C S

(CLASS - 9) – DAILY PRACTICE PAPER

SELF ASSESSMENT TEST

General instructions.

1. This question paper has 5 Sections A, B, C, D and E.
2. Section A has 6 MCQs carrying 1 mark each.
3. Section B has 2 questions carrying 2 marks each.
4. Section C has 2 questions carrying 3 marks each.
5. Section D has 1 question carrying 5 marks.
6. Section E has 1 Case Study Base Question of 4 marks.
7. Draw neat figures wherever required. Take $\pi = 22/7$ wherever required if not stated.

SECTION-A

Q 1. Every rational number is:

(a) a natural number (b) an integer
(c) a real number (d) a whole number

[NCERT Exemplar]

Q 2. The decimal expansion of the number $\sqrt{2}$ is:

(a) a finite decimal (b) 1.41421
(c) non-terminating recurring (d) non-terminating non-recurring

[NCERT Exemplar]

Q 3. **The representation of $1.\overline{3}$ in the form $\frac{p}{q}$ is:**

(a) $\frac{4}{3}$ (b) $\frac{5}{3}$ (c) $\frac{5}{4}$ (d) none of these

[NCERT Exemplar]

Q 4. $\frac{6-4\sqrt{2}}{6+4\sqrt{2}}$ **is equal to:**

(a) $15 + 12\sqrt{2}$ (b) $17 - 12\sqrt{2}$
(c) $19 + 2\sqrt{2}$ (d) $18 + 3\sqrt{2}$

[NCERT Exemplar]

Q 5. $8 + 27^{\frac{1}{3}}$ is equal to:

(a) 5 (b) $8^{\frac{1}{3}}$ (c) 11 (d) 17

The following questions are Assertion and Reason based questions. Two statements are given, one labelled as Assertion (A) and the other is labelled as Reason (R). Select the correct answer to these questions from the codes (a), (b), (c) and (d) as given below.

(a) Both A and R are true, and R is the correct explanation of A.
(b) Both A and R are true, but R is not the correct explanation of A.
(c) A is true, but R is false.
(d) A is false, but R is true.

Q6. **Assertion (A)** : $(14)^5 \times (14)^7 = (14)^{12}$
Reason (R) : $a^m \times a^n = a^{m+n}$

SECTION-B

Q7. Find which of the following rational numbers have terminating or non-terminating decimal expansion.

(i) $-\frac{527}{300}$ (ii) $\frac{837}{325}$
(iii) $-\frac{85}{12}$ (iv) $-\frac{39}{160}$

Q8. Find which of the variables x, y, z and a represent rational numbers and which represents irrational numbers:

(i) $x^2 = 5$ (ii) $y^2 = 9$ (iii) $z^2 = 0.04$ (iv) $u^2 = \frac{17}{4}$

[NCERT Exemplar]

SECTION-C

Q9. Arrange $\sqrt[3]{2}$, $\sqrt{3}$ and $\sqrt[4]{4}$ in descending order.

Q10. If x = 2 - $\sqrt{3}$ find the value of $\left(x - \frac{1}{x}\right)^3$:

OR

If x is a positive real number and exponents are rational numbers, simplify the following:

(i) $\left(\frac{x^m}{x^n}\right)^{m+n} \left(\frac{x^n}{x^l}\right)^{n+l} \left(\frac{x^l}{x^m}\right)^{l+m}$ (

(ii) $\left(\frac{x^a}{x^b}\right)^{\frac{1}{ab}} \left(\frac{x^b}{x^c}\right)^{\frac{1}{bc}} \left(\frac{x^c}{x^a}\right)^{\frac{1}{ca}}$

SECTION-D

Q11. Rationalise the following expressions:

(i) $\frac{1}{\sqrt{7} + \sqrt{6} - \sqrt{13}}$ (ii) $\frac{1}{\sqrt{3} - \sqrt{2} + \sqrt{5}}$

(iii) $\frac{1}{\sqrt{2} + \sqrt{3} - \sqrt{5}}$ (iv) $\frac{1}{\sqrt{2} - \sqrt{3} - \sqrt{5}}$

OR

If $x = \frac{2-\sqrt{5}}{2+\sqrt{5}}$ and $y = \frac{\sqrt{3}-\sqrt{2}}{\sqrt{3}+\sqrt{2}}$, find $x^2 - y^2$.

SECTION-E

Q12. Supriya, a class IX maths teacher mostly conducts a MCQs based test at the end of every chapter. This helps her to check the performance of students and to know the area of improvement in that specific chapter.

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