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Mathematics, Science, Social Science, English, Hindi

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Section A MCQ – 1 Mark Each

Q.1 The number 1.27 in the form of $\frac{p}{q}$, $q \neq 0$ is

(a) $\frac{14}{11}$

(b) $\frac{14}{9}$

(c) $\frac{14}{13}$

(d) $\frac{14}{15}$

Q.2 Rationalisation factor for the denominator of the expression $\frac{1}{\sqrt{7}-2}$ is

(a) $7 + \sqrt{2}$

(b) $7 - \sqrt{2}$

(c) $\sqrt{7} - 2$

(d) $\sqrt{7} + 2$

Q.3 Given rational number $-\frac{7}{2}$. This rational number can also be known as

(a) a natural number

(b) a whole number

(c) a fraction

(d) a real number

Q.4 The square root of which number is rational

(a) 7

(b) 1.96

(c) 0.04

(d) 13

Q.5 On adding $2\sqrt{3} + 3\sqrt{2}$, we get

(a) $5\sqrt{5}$

(b) $5(\sqrt{3} + \sqrt{2})$

(c) $2\sqrt{3} + 3\sqrt{2}$

(d) None of these

Section B – 2 Mark Each

Q.6 Express as a pure surd: $\frac{3}{4}\sqrt{3}$

Q.7 Express as a mixed surd: $\sqrt[4]{243}$

Q.8 Show that $\frac{x^{-1} + y^{-1}}{x^{-1}} + \frac{x^{-1} + y^{-1}}{y^{-1}} = \frac{x^2 + y^2}{xy}$.

Section C – 3 Mark Each



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Q.9 If $\frac{3}{\sqrt{3}+1} + \frac{5}{\sqrt{3}-1} = a + b\sqrt{3}$, find a and b.

Q.10 Represent $\sqrt{7.5}$ on number line.

Section D – 4 Mark Each

Q.11 Show that: $\frac{1}{3-\sqrt{8}} - \frac{1}{\sqrt{8}-\sqrt{7}} + \frac{1}{\sqrt{7}-\sqrt{6}} - \frac{1}{\sqrt{6}-\sqrt{5}} + \frac{1}{\sqrt{5}-2} = 5$.

Q.12 if $x = 2 + \sqrt{3}$, find the value of (a) $x^2 + \frac{1}{x^2}$ (b) $\sqrt{x} + \frac{1}{\sqrt{x}}$

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