

SATISH CHANDRA MEMORIAL SCHOOL

CLASS: IX

SUBJECT: MATHEMATICS

TOPIC: Number Systems

F. M. : 12

CLASS TEST

TIME: 30 minutes

A. Choose the correct option : $[1 \times 3 = 3]$

1. Which one of the following options is equal to $(\sqrt[3]{8})^{-2}$?

- (a) 4 (b) $\frac{1}{4}$ (c) -4 (d) $-\frac{1}{4}$

2. Which of the following number is irrational?

- (a) $\sqrt{\frac{4}{9}}$ (b) $\frac{\sqrt{625}}{\sqrt{16}}$ (c) $\sqrt{8}$ (d) $2.\bar{1}$

3. **Assertion (A):** 1.01001000100001000001 ... is an irrational number.

Reason (R): Any non – terminating and recurring decimal number is an irrational number.

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

B. Very short answer type questions: $[2 \times 3 = 6]$

1. Plot $\sqrt{6.8}$ on numberline.
2. If $a = 3$ and $b = 2$, then find the value of $(a^a - b^b)^{-1}$.
3. Rationalise the denominator: $\frac{4}{\sqrt{7} + \sqrt{3}}$

C. Short Answer type question: $[3]$

If $\frac{\sqrt{5} + \sqrt{2}}{\sqrt{5} - \sqrt{2}} = a + b\sqrt{10}$, find the rational values of a and b.