

CHAPTER END TEST

NUMBER SYSTEM

(COVERS PART – I & II)

TIME: 1 HOUR

Class - IX

MAXIMUM MARKS: 32

General instructions:

- (i) All the questions are compulsory.
- (ii) The question paper consists of 16 questions. Question number 1–7 are of 1 mark each, question number 8–12 are of 2 marks each, question number 13–15 are of 3 marks each and question number 16 is of 6 marks.
- (iii) Write down the serial number before attempting the question.
- (iv) Use of a calculator is not permitted.

SECTION - A

1. Write the following real numbers in ascending order:
 - (i) $\frac{9}{\sqrt{2}}, \frac{3}{2}\sqrt{5}, 4\sqrt{3}, 3\sqrt[6]{5}$
 - (ii) $\frac{5}{\sqrt{3}}, \frac{7}{3}\sqrt{2}, -\sqrt{3}, 3\sqrt{5}, 2\sqrt{7}$
2. Write any two rational numbers in $\frac{p}{q}$ form, which are non-terminating but recurring.
3. Find one irrational number between 0.2101 and 0.2222
4. Simplify: $\frac{13^4}{13^8}$
5. Which is the largest negative integer in the number system?
6. Find the decimal representation of $\frac{-16}{45}$.
7. Give an example to show that the product of a rational number and an irrational number may be a rational number.

SECTION - B

8. If x, y are rational numbers and $\frac{5+\sqrt{11}}{3-2\sqrt{11}} = x + y\sqrt{11}$, find the values of x and y.

9. Which is greater $\sqrt{7} - \sqrt{3}$ or $\sqrt{5} - 1$?
10. Write the given rational number 0.2353535..... (or $0.2\overline{35}$) in $\frac{p}{q}$ form.
11. Rationalise the following: $\frac{1}{\sqrt{7} - \sqrt{6}}$
12. Evaluate $x^2 + \frac{1}{x^2}$, when $x = \sqrt{3} - \sqrt{2}$

SECTION - C

13. If $\frac{\sqrt{7}-1}{\sqrt{7}+1} - \frac{\sqrt{7}+1}{\sqrt{7}-1} = a + b\sqrt{7}$, find the values of a and b.
14. Represent $\sqrt{9.3}$ on the number line.
15. Find the length $\sqrt{3.5}$ geometrically.

SECTION - D

16. (a) Visualise 9.296 on the number line.
- (b) Find the value of x in the given equation.

$$\sqrt[3]{2x-5} - 5 = 0$$