

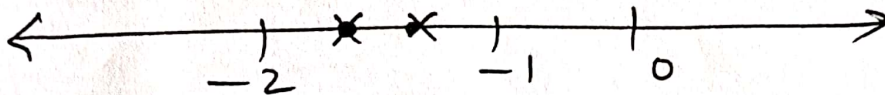
①

INTEGRATED + (V₂)
Class: VII, MATHEMATICS

1. RATIONAL NUMBERS

TEACHING TASK (MAINS LEVEL)

01.



option: A $-\frac{5}{3} = -1.6$, $-\frac{3}{2} = -1.5$ Ans: A

02

$$\frac{1}{3}, -\frac{2}{7}, -\frac{4}{3}$$

L.C.M. of $\{3, 7, 3\} = 21$

$$\frac{1}{3} \times \frac{7}{7} = \frac{7}{21}, \quad -\frac{2}{7} \times \frac{3}{3} = -\frac{6}{21}, \quad -\frac{4}{3} \times \frac{7}{7} = -\frac{28}{21}$$

$\therefore$ Ascending order $= -\frac{28}{21} < -\frac{6}{21} < \frac{7}{21}$
 $= -\frac{4}{3}, -\frac{2}{7}, \frac{1}{3}$

Ans: B

03

$$B) -\frac{25}{35} = -\frac{5}{7}, \quad -\frac{55}{77} = -\frac{5}{7}$$

Ans: B

04.

$$-\frac{10}{20} = -\frac{1}{2} \text{ or } -\frac{2}{4}$$

Ans: D

05

$$A) -\frac{1}{3} = -0.33, \quad B) -\frac{1}{4} = -0.25$$

$$C) -\frac{2}{5} = -0.66, \quad D) -\frac{3}{8} = -0.375$$

Smallest $= -0.66$

Ans: C

06 $-\frac{6}{8} = -\frac{3}{4}$ Ans: A ⁽²⁾

07 $-\frac{1}{2} = -0.5$, $-\frac{3}{4} = -0.75$, $-\frac{1}{3} = -0.33$
 Ascending order = $-0.75 < -0.5 < -0.33$
 $= -\frac{3}{4} < -\frac{1}{2} < -\frac{1}{3}$ Ans: A

08 $\frac{26}{216} = \frac{1}{6}$ Ans: B

09 $-\frac{7}{4}$ Ans: B

10 0.07 Ans: B

JEE ADVANCED LEVEL

11. Ascending order
 A) $-2, -1, 0, 1$ ✓
 B) $0.25, 0.50, 0.75$ ✓
 C) $\frac{5}{6} = 0.83$, $\frac{4}{5} = 0.8$, X
 D) $-\frac{1}{3} = -0.33$, $-\frac{1}{2} = -0.5$ X
 Ans: A, B

12 1, -1 Ans: B, C

13. Statement I: Conceptual (True)
 Statement II: Conceptual (False) Ans: C

14 Statement I: Conceptual (True) (3)
Statement II: Conceptual (True) Ans: A

15 Assertion (A): Conceptual (False)
Reason (R): $0.25 = \frac{25}{100} = \frac{1}{4}$ (True) Ans: D

16 Assertion: $-\frac{2}{3} < -\frac{1}{2}$
 $\Rightarrow -4 < -3$ (True)
Reason: Conceptual (False) Ans: C

17 $-\frac{3}{7}, -\frac{3}{2}, -\frac{3}{4}$
Ascending order $\rightarrow -\frac{3}{2}, -\frac{3}{4}, -\frac{3}{7}$ Ans: D

18 Descending order $\rightarrow -\frac{3}{7}, -\frac{3}{4}, -\frac{3}{2}$ Ans: A

19 Given $-\frac{3}{4} = -0.75$, $-\frac{1}{2} = -0.50$, $-\frac{1}{8} = -1.25$
 $\frac{1}{3} = 0.33$
Ascending order $= -1.25, -0.75, -0.50, 0.33$
Second one $-0.75 = -\frac{3}{4}$ Ans: A

20 Extreme numbers $= -1.25, 0.33$
 $= -\frac{3}{4}, \frac{1}{3}$ Ans: D

21. $-\frac{5}{8} = \frac{A}{-32} \Rightarrow A = 20$

Ans: 20

(4)

22. Reciprocals $\rightarrow \frac{1}{2}, \frac{2}{3}, 2, \frac{3}{2}, \frac{4}{3}, \frac{5}{4}$

$\rightarrow 2, 1.5, 1.3, 1.2$

: Less than 2 $\rightarrow 1.5, 1.3, 1.2$

No. of reciprocals = 3

Ans: 3

23 a) $\frac{2}{5} = 0.4, \frac{3}{7} = 0.428, \frac{4}{9} = 0.44$

Largest = $\frac{4}{9}$ (P)

b) $\frac{2}{3} = 0.66, \frac{3}{4} = 0.75, \frac{5}{6} = 0.83$

Smallest = $0.66 = \frac{2}{3}$ (Q)

c) $-\frac{6}{8} = -\frac{3}{4}$ (S)

d) $\frac{25}{100} = \frac{1}{4}$ (R)

Ans: P, Q, S, R

24 a) Rational numbers $\rightarrow \frac{2}{5}, 3, -3$ (P, R, S)

b) Irrational numbers $\rightarrow \sqrt{3}$ (Q)

c) Natural numbers $\rightarrow 3$ (R)

d) Negative numbers $\rightarrow -3$ (S)

Ans: (P, R, S), Q, R, S

LEARNERS TASK (CQs)

(5)

01. $\frac{-192}{108} = \frac{-96}{54} = \frac{-64}{36} = \frac{64}{-36}$ Ans: A

02. $\frac{132}{-428} = \frac{-132}{428} = \frac{-33}{107} \propto \frac{33}{-107}$ Ans: A, B

03. $\frac{15}{36} \neq \frac{63}{108}$ Ans: B

04. $a > b, c < b \Rightarrow b > c$
 $\Rightarrow a > b > c$
 $\Rightarrow a > c$
 $\Rightarrow c < a$ Ans: B

05. $3.121212 \dots = \frac{p}{q}, q \neq 0$ Ans: C

06. Non-terminating, non-repeating Ans: C

07. $\frac{3}{4}$ Ans: C

08. Conceptual Ans: D

09. $\frac{-13}{3} \times \frac{9}{9} = -\frac{117}{27}$ Ans: C

10. 2.5 Ans: D

JEE MAINS LEVEL

01. 4, 0 Ans: C, D

02. 0 Ans: B



03 $\frac{1}{2} = 0.5, \frac{3}{4} = 0.75, \frac{2}{3} = 0.66.$

Ascending order $\rightarrow 0.5, 0.66, 0.75$
 $\frac{1}{2}, \frac{2}{3}, \frac{3}{4}$

Ans: A

04 $\frac{25}{100} = \frac{1}{4}$

Ans: C

05 $-\frac{2}{3} = -0.66, \frac{4}{5} = 0.80, \frac{6}{7} = 0.85, -\frac{1}{6} = -0.16$

Ascending order $\rightarrow -0.66, -0.16, 0.80, 0.85$
 $\rightarrow -\frac{2}{3}, -\frac{1}{6}, \frac{4}{5}, \frac{6}{7}$

Ans: D

06 $-\frac{2}{3} = -0.66, -1.$

opt: B : $-\frac{13}{18}, -\frac{7}{9}, -\frac{5}{6}, -\frac{8}{9}, -\frac{17}{18}$

$= -\frac{13}{18}, -\frac{14}{18}, -\frac{15}{18}, -\frac{16}{18}, -\frac{17}{18}$

Given numbers $-\frac{2}{3} = -\frac{12}{18}, -1 = -\frac{18}{18}$

clearly, $-\frac{18}{18} < -\frac{17}{18} < -\frac{16}{18} < -\frac{15}{18} < -\frac{14}{18} < -\frac{13}{18} < -\frac{12}{18}$

Ans: B

07. Ascending order $\rightarrow 0.600, 0.606, 0.660$

Ans: A

08

$$-\frac{1}{3}, -\frac{4}{3}, -\frac{2}{9}$$

$$= -\frac{3}{9}, -\frac{12}{9}, -\frac{2}{9}$$

Descending order

$$\rightarrow -\frac{2}{9} > -\frac{3}{9} > -\frac{12}{9}$$

$$\rightarrow -\frac{2}{9} > -\frac{1}{3} > -\frac{4}{3}$$

Ans:

Ans: A

09

$$\frac{5}{3}$$

Ans: A

10

$$3\frac{1}{4} = 3 + \frac{1}{4} = 3 + 0.25 = 3.25$$

Ans: C

JEE ADVANCED LEVEL

11.

Conceptual $\rightarrow$ A, C

Ans: A, C

12

$$B) -\frac{3}{5} < -\frac{1}{5}$$

$$\Rightarrow -15 < -5 \text{ (True)}$$

$$C) \frac{4}{6} = \frac{2}{3} \text{ (True)}$$

Ans: B, C

13

Statement I: Conceptual (True)Statement II: Conceptual (False)

Ans: C

14

$$\text{Statement I: } \frac{3}{4} > \frac{2}{3}$$

$$\Rightarrow 9 > 8 \text{ (True)}$$

$$\text{Statement II: } \frac{1}{2} < \frac{3}{5}$$

$$\Rightarrow 5 < 6 \text{ (True)}$$

Ans: A

15

Assertion (A): Conceptual (True)

Reason (R): Conceptual (True)

Ans: A



16. Assertion: $-\frac{5}{8} = \frac{5}{-8}$ (True)

(8)

Reason: Conceptual (True)

Ans: A

17. Given $\frac{2}{3} = 0.66$, $\frac{3}{4} = 0.75$, $\frac{5}{6} = 0.83$, $\frac{1}{2} = 0.5$

Ans: D

Smallest = $0.5 = \frac{1}{2}$

18. Largest = $0.83 = \frac{5}{6}$

Ans: C

19. Rational $\rightarrow 0.5, 0.75, 0.\bar{3}, \frac{2}{5}$

Ans: A

20. Irrational $\rightarrow \sqrt{2}$

Ans: C

21. $0.75 > 0.5$, $1.0 > 0.5$

Ans: 2

two numbers

22. $\frac{1}{4} \times \frac{3}{3} = \frac{3}{12}$, $\frac{2}{3} \times \frac{4}{4} = \frac{8}{12}$

$\therefore \frac{3}{12} < \frac{4}{12} < \frac{5}{12} < \frac{6}{12} < \frac{7}{12} < \frac{8}{12}$

Ans: 4

$\therefore$ 4 numbers

23. a) $\frac{22}{-42} = -\frac{11}{21}$ (q) b) $\frac{-12}{-21} = \frac{4}{7}$ (p)

c) $\frac{27}{30} = \frac{9}{10}$ (s) d) $\frac{-32}{56} = -\frac{4}{7}$ (r)

Ans: q, p, s, r

24. a) -5 (p) b) 6 (q)

c) $\frac{3}{4} = 0.75$ (r) d) $\frac{7}{10} = 0.7$ (s)

Ans: p, q, r, s

$\Rightarrow$ THE END $\Leftarrow$