DECIMALS

SYNOPSIS - 1

I. **Decimal Fractions:** Fractions in which denominators are powers of 10 are known as decimal fractions.

Thus, $\frac{1}{10}=1$ tenth = .1; $\frac{1}{100}=1$ hundred = .01

$\frac{99}{100}=99$ hundredths = .99; $\frac{7}{1000}=7$ thousands = .007, etc.

II. Conversion of a Decimal into Vulgar Fraction: Put 1 in the denominator under the decimal point and annex with it as many zeros as is the number of digits after the decimal point. Now, remove the decimal point and reduce the fraction to its lowest terms.

Thus, $0.25=\frac{25}{100}=\frac{1}{4}; 2.008=\frac{2008}{1000}=\frac{251}{125}$.

III. 1. Annexing zeros to the extreme right of a decimal fraction does not change its value.

Thus, 0.8 = 0.80 = 0.800 etc.

2. If numerator and denominator of a fraction contain the same number of decimal places, then we remove the decimal sign.

Thus, $\frac{1.84}{2.99}=\frac{184}{299}=\frac{8}{13}; \frac{.365}{.584}=\frac{365}{584}=\frac{5}{8}$

IV. **Operations on Decimals:**

1. Addition and Subtraction of Decimal Fractions: The given numbers are so placed under each other that the decimal points lie in one column. The numbers so arranged can now be added or subtracted in the usual way.

2. $\frac{3}{10}, \frac{43}{100}$ are decimal fractions

3. A decimal has two parts.

e.g. 47.329 47 is integral part

329 is the decimal part

4. Adding zeros to the extreme right of the decimal part of a decimal does not change its value.

e.g. 0.9 = 0.90 = 0.900 = 0.9000

5. Writing decimal in an expanded form

e.g. 375.235 can be written as $375+\frac{2}{10}+\frac{3}{100}+\frac{5}{1000}$.

6. Convert all the given decimals into like decimals and add all the decimals. Put the decimal point directly under the decimal points of the addends.

7. When a decimal point is multiplied by power of 10 then the decimal point is shifted to the right by as many digits as there are zeroes in the multiplier.
   e.g. 98.73 × 10 = 987.3
   e.g. 873.296 × 100 = 87329.6
8. Multiplication of a decimal by a whole number
   e.g. 72.39 × 9 = 651.51
9. Multiplication of a decimal by a decimal.
   e.g. 2.9 × 2.5 = 7.25

WORK SHEET - 1

SINGLE ANSWER TYPE

1. The place value of '6' in the decimal number 4608.53 is
   1) 60 2) 600 3) 6000 4) 6
2. In the decimal number 3527.14, 3527 is called the_____
   1) Integral part 2) Decimal part
   3) Decimal and integral part 4) None
3. In the decimal number 1238.654, the place value of '5' is
   1) 500 2) 50 3) $\frac{5}{10}$ 4) $\frac{5}{100}$
4. The fractions in which the denominators are 10, 100, 1000 etc. are known as
   1) Decimals 2) Whole numbers
   3) Decimal fractions 4) None
5. The decimal part in 6.002 is
   1) 2 2) 0.002 3) 0.2 4) 0.02
6. The short form of $30 + 5 + \frac{4}{10} + \frac{7}{100}$ is
   1) 35.407 2) 34.047 3) 35.47 4) 35.74
7. The decimal number 648.329 in expanded form is
   1) 60 +400 + 8 + 0.3 + 0. 2 + 0.009 2) $600 + 40 + 8 + 3 + \frac{2}{10} + \frac{9}{100}$
   3) $600 + 40 + 8 + \frac{3}{10} + \frac{2}{100} + \frac{9}{1000}$ 4) $600 + 400 + 80 + \frac{3}{10} + \frac{2}{100} + \frac{9}{1000}$
8. Nine hundred and seventy eight is
   1) 97.8 2) 0.978 3) 978 4) 9.78
9. 903 + 0.5 + _____= 903.506
   1) 0.06 2) 0.006 3) 0.0006 4) 0.6
10. "Two ones and 5 – tenths" is
    1) 25 2) 52 3) 0.25 4) 2.5
11. Seventeen point zero five six =
    1) 17.56 2) 175.6 3) 17.056 4) 17.0056

12. Place value of 8 in 63.289 and 15.892 recpectively are

1) $\frac{8}{100},\frac{8}{1000}$ 2) $\frac{8}{100},\frac{8}{10}$ 3) $\frac{8}{10},\frac{8}{1000}$ 4) $\frac{8}{1000},\frac{8}{10000}$

13. 1238.629 is called the _____ form

1) ordinary 2) short

3) both (1) and (2) 4) neither 1nor 2

14. $\frac{168}{1000},\frac{1689}{10000}$ can be written respectively as

1) 16.8, 16.89 2) 0.168, 0.01689

3) 0.168, 0.1689 4) 0.168, 0.001689

15. $15\frac{73}{1000},6\frac{3}{10000}$ can be written respectively as

1) 15.73, 6.3 2) 15.073, 6.03

3) 15.073, 6.0003 4) 15.073, 6.00003

16. Point five eight nine and point two zero two three are respectively represented as

1) 0.589, 0.2032 2) 0.589, 0.2023

3) 0.0589, 0.2032 4) 0.00589, 0.2032

MULTI ANSWER TYPE

17. $\frac{100}{10000}$ can be written as

1) $\frac{1}{100}$ 2) 0.01 3) 0.001 4) 0.00001

18. 86.015 can be written as

1) $86+\frac{15}{1000}$ 2) $86+0.15$ 3) $86+0.015$ 4) $86+\frac{15}{100}$

REASONING ANSWER TYPE

19. *Statement I* : The whole number part in point nine seven is 0

Statement II: The left of decimal point is known as whole number part of a given decimal number.

1. Both Statements are true, Statement II is the correct explanation of Statement I.

2. Both Statements are true, Statement II is not correct explanation of Statement I.

3. Statement I is true, Statement II is false.

4. Statement I is false, Statement II is true.

20. *Statement I* : $\frac{2}{3}$ is called a decimal fraction

Statement II: The fraction in which the denominators are 10, 100, 1000..... are called decimal fractions

1. Both Statements are true, Statement II is the correct explanation of Statement I.
2. Both Statements are true, Statement II is not correct explanation of Statement I.
3. Statement I is true, Statement II is false.
4. Statement I is false, Statement II is true.

COMPREHENSION TYPE

Writeup-1

A = 158.398, B = 12.4269, C = 14.1698

21. The place value of 9 in decimal represented by A is

1) $\frac{9}{10}$ 2) $\frac{9}{100}$ 3) $\frac{9}{1000}$ 4) $\frac{9}{10000}$

22. The place value of 9 in decimal represented by B is

1) $\frac{9}{100}$ 2) $\frac{9}{1000}$ 3) $\frac{9}{10000}$ 4) $\frac{9}{10}$

23. The place value of 9 in decimal represented by C is

1) 9/100 2) 9/10 3) 9/1000 4) 9/10000

Writeup-2

If x = 23.45 and y = 0.725

24. Expandede form of x is

1) 20 + 3 + 0.4 + 0.5 2)

$20+3+\frac{4}{100}+\frac{5}{100}$

3) $20+3+\frac{4}{10}+\frac{5}{100}$ 4) $20+3+\frac{4}{10}+\frac{5}{10}$

25. Expanded from of y is

1) $700+20+5$ 2) $\frac{7}{100}+\frac{2}{100}+5$

3) $\frac{7}{1000}+\frac{2}{100}+\frac{5}{10}$ 4) $\frac{7}{10}+\frac{2}{100}+\frac{5}{1000}$

26. $20+4+\frac{1}{10}+\frac{7}{100}+\frac{5}{1000}$ is the expanded form of

1) 24.175 2) x + y

3) both (1) and (2) 4) neither (1) nor (2)

MATRIX MATCHING TYPE

27.

Column-I	Column-II
a) Place value of 3 in 12.237	1) 30
b) Place value of 3 in 12.327	2) 3
c) Place value of 3 in 12.273	3) $\frac{3}{100}$
d) Place value of 3 in 13.227	4) $\frac{3}{10}$
	5) $\frac{3}{1000}$

28. The place value chart of a number is given below:

Thou	Hund	Tens	Ones	Decimal Part	Tenths	Hundredths	Thousandths
4	6	9	8	.	5	3	0

Column-I	Column-II
a) The place value of 4 is	1) 90
b) The place value of 9 is	2) 30
c) The place value of 3 is	3) $\frac{3}{100}$
d) The place value of 5 is	4) 4000
	5) 5/10

INTEGER ANSWER TYPE

29. Place value of 1 in 123.658 is _____.
30. 86.0 can be written as _____.

SYNOPSIS - 2

1. **Multiplication of a Decimal Fraction By a power of 10:** Shift the decimal point to the right by as many places as is the power of 10.

   Thus $5.9632\times100=596.32; 0.073\times10000=0.0730\times10000=730$

2. **Multiplication of Decimal Fractions:** Multiply the given numbers considering them without the decimal point. Now, in the product, the decimal point is marked off to obtain as many places of decimal as is the sum of the number of decimal places in the given numbers.

   Suppose we have to find the product $(.2\times.02\times.002)$.

   Now $2\times2\times2=8$. Sum of decimal places = $(1+2+3)=6$

   $\therefore \quad .2\times.02\times.002=.000008$

3. Decimals having same number of decimal places are called like decimals.
   e.g. 2.5, 39.6, 147.5
4. Decimals not having the same number of decimal places are called unlike decimals.
   e.g 2.58, 3.2, 4.789

   $\frac{a}{b},\frac{c}{d}$ are two fractions.

5. If a × d > b × c, then $\frac{a}{b} > \frac{c}{d}$
6. If a × d < b × c, then $\frac{a}{b} < \frac{c}{d}$
7. If a × d = b × c, then $\frac{a}{b} = \frac{c}{d}$

   This method is used to compare two fractions.
8. By LCM method we can compare more than two fractions.
9. If $\frac{a}{b}$ and $\frac{c}{d}$ are two fractions, then the fractions $\frac{a+c}{b+d}$ lies between $\frac{a}{b}$ and $\frac{c}{d}$.

   Eg : If we take $\frac{5}{6}$ and $\frac{2}{3}$, then the fraction between them is $\frac{5+2}{6+3} = \frac{7}{9}$

WORK SHEET - 2

SINGLE ANSWER TYPE

1. Which of the following is false?
   1) 4.06 > 4.006 2) 6.87 < 6.807 3) 0.98<1 4) 7.805<7.85
2. 0.23, 6.27, 5.63, 9.01 are called _____ decimals.
   1) complex 2) unlike 3) like 4) Vulgar
3. 0.1, 0.01, 0.001 are called _____ decimals.
   1) complex 2) unlike 3) like 4) vulgar
4. Annexing zeros to the extreme right of the decimals point of a decimal ___its value.
   1) changes 2) does not change
   3) decreases 4) increases
5. If 400 + 60 + 5 + 0.1 + 0.06 + 0.009 is simplified, then the answer is
   1) 465.619 2) 456.619 3) 465.169 4) 465.961
6. Which is the smallest of 18.97, 18.097, 18.079, 18.007 ?
   1) 18.97 2) 18.079 3) 18.097 4) 18.007
7. The largest decimal of 48.63, 48.063, 48.36, 48.603 is
   1) 48.63 2) 48.603 3) 48.063 4) 48.36
8. Which of the following are like decimals?
   1) 6.73, 12.08 2) 50.7, 14.09 3) 549.02,54.023 4) 49.71, 49.7
9. If $40+1+\frac{6}{10}+\frac{3}{1000}+\frac{9}{10000}$ is expressed in decimal form, then the answer is
   1) 41.639 2) 41.66309 3) 41.6039 4) 41.006039
10. 0.47, 0.047, 0.0047, 0.00047 are in _____ order
    1) descending 2) ascending 3) irregular 4) none
11. 0.00063, 0.0063, 0.063, 0.63 are in _____ order
    1) descending 2) ascending 3) irregular 4) none

12. The decimals 2.2, 2.02, 0.22, 0.02, 0.202, 2.002 in ascending order is
1) 0.02 < 0.202 <0.22<2.02<2.002<2.2 2) 0.02<0.202<2.02<0.22<2.002<2.2
3 0.02<0.202<0.22<2.002<2.02<2.2 4) 0.02<2.02<0.22<2.002<0.202<2.2

13. If A = 5.39, B = 5.039 and C = 5.9304 then which of the following is true?
1) C > A 2) B < A 3) B < C 4) all of these

14. If A = $14+\frac{9}{100}+\frac{8}{1000}$, B = $14+\frac{9}{10}+\frac{8}{100}+\frac{6}{1000}$,

C = $14+\frac{9}{100}+\frac{8}{1000}+\frac{2}{10000}$, then the larger one is
1) A 2) B 3) C 4) none

15. The fractions $\frac{3}{5},\frac{4}{7},\frac{8}{9}$ and $\frac{9}{11}$ in their descending order is

1) $\frac{8}{9}>\frac{9}{11}>\frac{3}{5}>\frac{4}{7}$ 2) $\frac{9}{11}>\frac{3}{5}>\frac{4}{7}>\frac{8}{9}$

3) $\frac{3}{5}>\frac{9}{11}>\frac{8}{9}>\frac{4}{7}$ 4) $\frac{8}{9}>\frac{4}{7}>\frac{9}{11}>\frac{3}{5}$

16. If $4\times10^3+5\times10^2+6\times10+8\times\frac{1}{10}+9\times\frac{1}{100}+\frac{8}{1000}$ is simplified, then the answer is
1) 4560.898 2) 456.898 3) 45600.898 4) 4560.8098

17. The fractions $\frac{5}{8},\frac{7}{12},\frac{13}{16},\frac{16}{29}$ and $\frac{3}{4}$ in ascending order is 1)

$\frac{16}{28}<\frac{7}{10}<\frac{5}{8}<\frac{3}{4}<\frac{13}{16}$ 2) $\frac{16}{29}<\frac{7}{12}<\frac{5}{8}<\frac{3}{4}<\frac{13}{16}$

3) $\frac{16}{29}<\frac{5}{8}<\frac{7}{12}<\frac{13}{16}<\frac{3}{4}$ 4) $\frac{7}{12}<\frac{5}{12}<\frac{16}{29}<\frac{3}{4}<\frac{13}{16}$

18. If 13.48, 0.189, 9.7, 8.23 are converted into like decimals, then 9.7 becomes
1) 9.7000 2) 9.700 3) 9.70 4) 9.7000

MULTI ANSWER TYPE

19. 5.307 is greater than
1) 5.703 2) 5.370 3) 5.073 4) 5.037

20. If A = 12.52 then its like decimals are
1) 0.8 2) 3.25 3) 13.25 4) 12.552

REASONING ANSWER TYPE

21. *Statement I* : 2.75 = 2.750 = 2.7500

Statement II: On putting any number of zeros to the extreme right side of the decimal part of a decimal, does not change the value of the decimal.

1. Both Statements are true, Statement II is the correct explanation of Statement I.
2. Both Statements are true, Statement II is not correct explanation of Statement I.
3. Statement I is true, Statement II is false.
4. Statement I is false, Statement II is true.

22. *Statement I*: If A = $3\times10^3+7\times10^2+5\times10^1+\frac{8}{100}+\frac{9}{1000}+\frac{3}{10000}$ and

B = $3\times10^3+7\times10^2+5\times10^0+\frac{8}{10}+\frac{9}{100}+\frac{3}{1000}+\frac{5}{10000}$, then A =B

Statement II: A decimal has two parts- whole number part and decimal part.

1. Both Statements are true, Statement II is the correct explanation of Statement I.
2. Both Statements are true, Statement II is not correct explanation of Statement I.
3. Statement I is true, Statement II is false.
4. Statement I is false, Statement II is true.

COMPREHENSION TYPE

Writeup-1

A = 4.639, B = 4.638, C = 4.6372, D = 4.9

23. Which are like decimals?
    1) A 2) B 3) C 4) both 1 & 2
24. Which are unlike decimals?
    1) A, B 2) B, C 3) A, D 4) both 2 & 3
25. Which is the largest of all the decimals
    1) A 2) D 3) C 4) B

Writeup-2

If A = $\frac{14}{70}$, B = $\frac{28}{70}$, C = $\frac{1}{25}$ and D = $\frac{3}{20}$

26. The ascending order of given is
    1) A, B, C, D 2) C, D, A, B 3) D, A, B, C 4) C, A, D, B
27. The greatest of all the given is
    1) D 2) C 3) B 4) A
28. The smallest of all the given is
    1) D 2) C 3) B 4) A

MATRIX MATCHING TYPE

29.

Column-I	Column-II
a) Number of decimal places of 12.38	1) 2
b) Number of decimal places of 1321.28	2) 1
c) Number of decimal places of 281.238	3) 3
d) Number of decimal places of 8.231	4) 4
	5) 5

30.

Column-I	Column-II
a) 3.03, 3.30, 33.03	1) Like decimals
b) 213.6, 64.2, 33.5	2) Unlike decimals
c) 0.1, 0.01, 0.001	3) Are in descending order
d) 13.48, 0.189, 9.7, 8.23	4) Are in ascending order
	5) Cannot be composed

INTEGER ANSWER TYPE

31. The digits in decimal part of 286 is _____

32. The digits in decimals part of $\frac{365}{80}$ is _____

SYNOPSIS - 3

1. When a given decimal without decimal point as divided by powers of 10. The answer obtained is as follows.

   a) $\frac{72963}{10000} = 7.2963$ b) $\frac{72896}{1000} = 72.896$ c) $\frac{68342}{1000} = 68.342$

2. When we convert a fraction into a decimal, if we obtain a zero remainder, then the decimal is a terminating decimal.
3. In recurring decimals a set of digits in the decimal part is repeated continuously.
4. A decimal in which all the digits in the decimal part are repeated is called a pure-recurring decimal. e.g : $0.\overline{4}$.
5. A decimal in which some of the digits in the decimal part are repeated and the rest are not repeated is called a mixed recurring decimal.
   e.g : $0.7\overline{2}$.
6. Converting $0.\overline{6}$ into a vulgar fraction.

$0.\overline{6} = 0.666...$

let $x = 0.\overline{6} \Rightarrow x = 0.666.....$

$10 \times x = 6.6666...$

$10x = 6.6666...$

$x = 0.6666...$

$9x = 6$

$\therefore x = \frac{6}{9}$

WORK SHEET - 3

SINGLE ANSWER TYPE

1. If $\frac{2}{3}$ is expressed as nonterminating decimal, then the answer is

   1) $0.\overline{6}$ 2) $0.\overline{67}$ 3) $0.\overline{68}$ 4) $0.\overline{69}$

2. If $\frac{15}{8}$ is expressed as terminating decimal, then the answer is

   1) 1.879 2) 1.878 3) 1.876 4) 1.875

3. A rational number is a number of the form $\frac{a}{b}$ where 'a' and 'b' are__, &_

   1) whole numbers, $b \neq 0$ 2) intergers, b = 0

   3) whole numbers, b = 0 4) intergers, $b \neq 0$

4. Every rational number can be expressed as

   1) A nonterminating decimal 2) a terminating decimal

   3) non terminating but repeating 4) both (2) and (3)

5. 0.487636363..... can be represented as

   1) $0.\overline{48763}$ 2) $0.4\overline{8763}$ 3) $0.48763\bar{}$ 4) $0.487\overline{63}$

6. Non terminating repeating decimals are called _____ decimals.

   1) recurring 2) periodic 3) both 1 & 2 4) none

7. $\frac{-33}{80}$ in decimal form is

   1) 0.4125 2) –0.4225 3) –0.4125 4) –0.4325

8. $\frac{24}{7}$ is a _____ decimal

   1) terminating 2) non - terminating 3) whole number 4) none

9. If A = 5/10 and B = 13/4, then the decimal forms

   1) 0.05; 3.25 2) 0.5; 3.025 3) 0.5; 3.25 4) 0.55; 0.325

10. The period in $8.34\overline{7215}$ is

    1) 3 2) 6 3) 5 4) 4

11. $4\frac{3}{25}$ in decimal form is

    1) 4.15 2) 4.25 3) 4.12 4) 4.18

12. If $\frac{146}{25}$ is expressed as terminating decimal, then the answer is

    1) 5.82 2) 5.84 3) 5.86 4) 5.88

13. If $\frac{15277}{2000}$ is expressed as decimal, then the answer is

1) 7.6285 2) 7.6485 3) 7.6385 4) 7.6185

14. If $\frac{100019}{25000}$ is expressed as decimal, then the answer is

1) 4.0076 2) 4.076 3) 4.000076 4) 4.00076

MULTI ANSWER TYPE

15. 0.3125 can be expressed as

1) $\frac{3125}{10000}$ 2) $\frac{5}{16}$ 3) $\frac{5}{32}$ 4) $\frac{3125}{1000}$

16. If $\frac{7}{15} = 0.4\bar{6}$ then which of the following is/are true?

1) period = 6 2) periodicity = 1 3) Period = 46 4) Periodicity = 2

REASONING ANSWER TYPE

17. *Statement I* : $\frac{0.15}{80}$ is a terminating decimal.

Statement II: Only that fraction in simplest form that has a denominator having the prime factor only 2, only 5 or both 2 and 5 can be represented by a terminating decimal.

1. Both Statements are true, Statement II is the correct explanation of Statement I.
2. Both Statements are true, Statement II is not correct explanation of Statement I.
3. Statement I is true, Statement II is false.
4. Statement I is false, Statement II is true.

18. *Statement I* : $\frac{52}{15}$ can be expressed as a pure repeating decimal

Statement II: If all digits after the decimal are repeating medingly such a decimal is called “pure repeating decimal”.

1. Both Statements are true, Statement II is the correct explanation of Statement I.
2. Both Statements are true, Statement II is not correct explanation of Statement I.
3. Statement I is true, Statement II is false.
4. Statement I is false, Statement II is true.

COMPREHENSION TYPE

Writeup-1

If $A = \frac{103}{111}; B = \frac{1187503}{62500}; C = \frac{629}{125}$, then

19. A is a _____
    1) terminating
    2) non - terminating recurring
    3) non - terminating non - recurring
    4) none
20. B is a _____
    1) terminating
    2) non - terminating recurring
    3) non - terminating non - recurring
    4) none
21. The decimal form of C is
    1) 5.32 2) 5.0032 3) 5.032 4) 5.00032

Writeup-2

If $P = \frac{1}{3}$ and $Q = \frac{3}{11}$ then

22. Sum of P and Q is
    1) 0.1010... 2) 0.6060... 3) 0.3737... 4) 0.2323...
23. Difference between P and Q is
    1) 0.0101... 2) 0.0606... 3) 0.0303... 4) 0.0707...
24. (P + Q) + (P – Q) is
    1) 0.111... 2) 0.666... 3) 0.444... 4) 0.333...

MATRIX MATCHING TYPE

25.

Column-I	Column-II
a) Rational number	1) 0
b) Repeating decimal	2) 0.1412413...
c) Terminating decimal	3) 0.25
d) Not a rational number	4) 0.252525...
	5) $0.2\overline{75}$

26.

Column-I	Column-II
a) $3.4\overline{6}$	1) Pure repeating decimal
b) $0.\overline{90}$	2) Terminating decimal
c) 0.625	3) Non terminating repeating decimal
d) 0.23794	4) Mixed repeating decimal
	5) Non terminating non repeating decimal

INTEGER ANSWER TYPE

27. The integral part of 48.392 is _____

28. The period of 0.909090... is _____

SYNOPSIS - 4

I. 'BODMAS' Rule: Theis rule depicts the correct sequence in which the operations are to be executed, so as to find out the value of a given expression.
Here 'B' stands for 'Bracket', 'O' for 'of', 'D' for 'Division', 'M' for 'Multiplication', 'A' for 'Addition' and 'S' 'Substraction'.
Thus, in simplifying an expression, first of all the brakets must be removed, strictly in the order ( ), { } and [ ].
After removing the brackets, we must use the following operations strictly in the order:
(i) of (ii) Division (iii) Multiplication (iv) Addition (v) Subtraction

II. Virnaculum (or Bar): When an expression contains Virnaculum, before applying the 'BODMAS' rule, we simplify the expression under the Virnaculum.

WORK SHEET - 4

SINGLE ANSWER TYPE

1. If 2/3 of 48 is simplified, then the answer is
1) 36 2) 32 3) 30 4) 38

2. 4/5 of Re. 1 is
1) 60p 2) 90p 3) 80p 4) 75p

3. $\frac{7}{9}$ of 36 km is
1) 26 km 2) 27 km 3) 28 km 4) 29 km

4. $\frac{5}{3}$ of 2 hours equals
1) 200 hrs 2) 200 mts 3) 200 seconds 4) 300 mts

5. If $\frac{5}{13}$ of $19\frac{1}{2}$ is simplified, then the answer is
1) $7\frac{1}{3}$ 2) $7\frac{1}{4}$ 3) $7\frac{1}{2}$ 4) $7\frac{1}{4}$

6. If $1\frac{2}{7}$ of $\frac{28}{63}$ is simplified, then the answer is
1) 4/7 2) 7/4 3) 9/4 4) 4/9

7. $1\frac{1}{2} \div \frac{2}{3}$ equals
1) $\frac{4}{9}$ 2) $\frac{9}{4}$ 3) $2\frac{1}{4}$ 4) both 2 & 3

8. If $\frac{2}{5}$ of 1 metre is added to 3 metres, then the total length is

1) 3.4 m 2) 3.6 m 3) 3.5 m 4) 3.2 m

9. If $\frac{2}{3}$ of 6km is subtracted from 23km, then the answer is

1) 17km 2) 18km 3) 19km 4) 20km

10. $\frac{2}{9}$ of $15+\frac{3}{4}=$

1) $\frac{12}{49}$ 2) $\frac{49}{12}$ 3) $\frac{46}{15}$ 4) $\frac{47}{12}$

11. If $1\frac{2}{3}\div\frac{5}{6}$ of $\frac{24}{25}$ is simplified, then the result is

1) $2\frac{2}{12}$ 2) $2\frac{3}{12}$ 3) $2\frac{1}{12}$ 4) $2\frac{4}{12}$

12. If $\frac{1}{3}$ of $4\frac{2}{3}\div2\frac{1}{3}\times1\frac{1}{2}]$ is simplified, then the result is

1) 1 2) 2 3) 0 4) – 1

13. If x = $1\frac{2}{5}$ of $3\frac{1}{3}$ and y = $\frac{24}{42}$ of x, then x ÷ y is

1) 7/4 2) 7/3 3) 7/2 4) 7/8

14. If Ramesh spends $\frac{3}{8}^{th}$ of the day in library, $\frac{1}{3}^{rd}$ of the day at school, then the number of hours he was left with in a day is

1) 8 hours 2) 9 hours 3) 7 hours 4) 6 hours

15. $5\frac{1}{2}$ of $\left(\frac{2}{3}-\frac{3}{5}\right)+\frac{1}{2}\div\frac{5}{11}$

1) $1\frac{6}{15}$ 2) $1\frac{5}{15}$ 3) $1\frac{8}{15}$ 4) $1\frac{7}{15}$

MULTI ANSWER TYPE

16. If $4\frac{4}{5}\div\frac{3}{5}$ of 5 + $\frac{4}{5}\times\frac{3}{10}-\frac{1}{5}$ is simplified, then the result is

1) $1\frac{16}{25}$ 2) $1\frac{17}{25}$ 3) $\frac{41}{25}$ 4) $\frac{42}{25}$

17. If $\frac{3}{4}$ of 12 km is travelled in 1 hour, then the distance travelled in $4\frac{1}{2}$ hrs is

1) 40.5km 2) $40\frac{1}{2}$km 3) 40,500m 4) 40.05m

REASONING ANSWER TYPE

18 *Statement I* : $\frac{7}{5}$ of $\left(\frac{2}{3}+\frac{7}{12}\right)\div\left(\frac{5}{6}-\frac{3}{5}\right)=2\frac{1}{2}$

Statement II: In BODMAS rule, the order of operations used while simplifying a numerical expression is (i) bracket (ii) of (iii) division (iv) multiplication (v) addition (vi) subtraction

1. Both Statements are true, Statement II is the correct explanation of Statement I.
2. Both Statements are true, Statement II is not correct explanation of Statement I.
3. Statement I is true, Statement II is false.
4. Statement I is false, Statement II is true.

COMPREHENSION TYPE

Writeup-1

x =2/3+3/4 and y = 5/6–3/5

19. The value of x in
1) 17/12 2) 17/30 3) 17/6 4) 17/4

20. The value of y is
1) 17/12 2) 17/30 3) 7/12 4) 7/30

21. The value of (x + y) of x is
1) $\frac{187}{80}$ 2) $\frac{197}{80}$ 3) $\frac{177}{80}$ 4) $\frac{167}{80}$

Writeup-2

$1\frac{1}{3}\div\frac{3}{7}$ of $2\frac{5}{8}+1\frac{1}{9}=x$

22. If $x\times\frac{9}{93}=y$, then the value of y is
1) 1/9 2) 3/9 3) 2/9 4) 5/9

23. If $y\div\frac{7}{81}=z$, then the value of z is
1) $2\frac{4}{7}$ 2) $2\frac{3}{7}$ 3) $2\frac{5}{7}$ 4) $2\frac{1}{7}$

24. If z of $\frac{49}{36}=A$ is simplified, then the answer of A is
1) 7/3 2) 2/7 3) 7/2 4) 7/4

MATRIX MATCHING TYPE

25.

Column-I	Column-II
a) 3/8 of 48	1) 18
b) $\frac{4}{9} \div \frac{2}{81}$	2) $\frac{12}{15}$
c) $\frac{4}{7}$ of $(49) - 6$	3) $\frac{16}{15}$
d) $\left(\frac{1}{3} + \frac{4}{5}\right) - \frac{1}{15}$	4) 22
	5) 10

26.

Column-I	Column-II
a) $3\frac{1}{3} \times 2\frac{1}{4} \div \left(\frac{2}{4} + 1\frac{3}{4}\right)$	1) $\frac{1}{4}$
b) $\left(5 \div 3\frac{1}{3}\right)\frac{4}{15} \times \left(\frac{25}{4} \div 10\right)$	2) $1\frac{4}{7}$
c) $12\frac{1}{2}$ of $\left(\frac{3}{5} - \frac{2}{7}\right) \times \frac{2}{5}$	3) $\frac{10}{3}$
d) $\left(7 - 1\frac{1}{2} - 3\frac{1}{4}\right)$ of $\left(\frac{3}{4} \div \frac{9}{8}\right)$	4) $3\frac{1}{3}$
	5) $\frac{3}{2}$

INTEGER ANSWER TYPE

27. $\frac{1}{3}$ of $4\frac{2}{3} \div 2\frac{1}{3} \times 1\frac{1}{2} =$ _____

28. If $\frac{3}{4}$ of 32 chocolates were sold then the number of chocolates left unsold are _____.

WORK SHEET – 1 (KEY)				
1) 2	2) 1	3) 4	4) 3	5) 2
6) 3	7) 3	8) 3	9) 2	10) 2
11) 3	12) 2	13) 3	14) 3	15) 3
16) 2	17) 1,2	18) 1,3	19) 1	20) 1
21) 2	22) 3	23) 3	24) 3	25) 4
26) 3	27) A-3 B-5 C-4 D-2	28) A-4 B-1 C-3 D-5	29) 100	30) 86

WORK SHEET – 2 (KEY)				
1) 2	2) 3	3) 2	4) 2	5) 3
6) 4	7) 1	8) 1	9) 3	10) 1
11) 2	12) 3	13) 4	14) 2	15) 1
16) 1	17) 2	18) 2	19) 3,4	20) 2,3
21) 1	22) 3	23) 4	24) 4	25) 1
26) 2	27) 3	28) 2	29) A-1 B-1 C-3 D-3	30) A-1,4 B-1,3 C-2,3 D-2
31) 0	32) 5625			

WORK SHEET – 3 (KEY)				
1) 1	2) 4	3) 4	4) 4	5) 4
6) 3	7) 3	8) 2	9) 3	10) 4
11) 3	12) 2	13) 3	14) 4	15) 1,2
16) 1,2	17) 1	18) 4	19) 2	20) 1
21) 3	22) 2	23) 2	24) 2	25) A-1,3,4,5 B-4,5 C-3 D-2
26) A-3,4 B-1,3 C-2 D-5	27) 48	28) 90		

WORK SHEET – 4 (KEY)				
1) 2	2) 3	3) 3	4) 2	5) 3
6) 1	7) 2,3	8) 1	9) 3	10) 2
11) 3	12) 1	13) 3	14) 3	15) 4
16) 1,3	17) 2	18) 1	19) 1	20) 4
21) 1	22) 3	23) 1	24) 3	25) A-1 B-1 C-4 D-3
26) A-3,4 B-1 C-2 D-5	27) 1	28) 8		