Class : Nine (Girls)
Chapter-1
Mathematics
Real Number

Creative Multiplication Choice Questions

1. Convert $0.\dot{2}3\dot{4}$ into common fraction. [D.B.- 19]

a) $\frac{211}{900}$ b) $\frac{234}{909}$
c) $\frac{234}{900}$ d) $\frac{26}{111}$

2. Which is the simple fraction of $0.55\dot{5}$? [R.B.- 19]

a) $\frac{5}{9}$ b) $\frac{11}{18}$
c) $\frac{11}{9}$ d) $\frac{50}{99}$

3. Which one is the simple fraction of $0.5\dot{7}$? [Dj.B.- 19]

a) $\frac{31}{45}$ b) $\frac{26}{45}$
c) $\frac{52}{99}$ d) $\frac{57}{90}$

4. What kind of number $\sqrt{\frac{12}{75}}$ is? [Dj.B.- 19]

a) Natural b) Rational
c) Irrational d) Prime

5. Which one of the following is the rational number? [Ctg.B.- 19]

a) $\frac{\sqrt{5}}{\sqrt{10}}$ b) $\frac{\sqrt{27}}{\sqrt{48}}$
c) $\frac{\sqrt{6}}{3}$ d) $\frac{\sqrt{8}}{\sqrt{7}}$

6. Which one of the following is the common fraction of $0.3\dot{1}$? [D.B.- 19]

a) $\frac{28}{99}$ b) $\frac{31}{100}$
c) $\frac{14}{45}$ d) $\frac{31}{90}$

7. Which one is the simple fraction of $3.\dot{2}$? [S.B.- 19]

a) $3\frac{1}{3}$ b) $3\frac{2}{9}$
c) $3\frac{5}{9}$ d) $3\frac{7}{9}$

8. $0.2\dot{7} + 0.\dot{3}$ = What? [J.B.- 19]

a) 5.4 b) 0.54
c) 0.50 d) 0.17

9. Which one is the irrational number? [J.B.- 19]

a) $\sqrt{9}$ b) $\sqrt{7}$
c) 0.5 d) 0.10

10. $0.\dot{4} \times 0.\dot{3}$ = What? [B.B.- 19]

a) 1.2 b) 0.12
c) 0.102 d) 0.148

11. If $a, b, c \in R; a > b > 0$ and $c < 0$. Which one of the following is correct? [B.B.- 19]

a) $ac = bc$ b) $ac > bc$
c) $ac < bc$ d) $ab < bc$

12. Which one is a natural number? [All B.- 18]

a) -1 b) $\sqrt{2}$
c) $\frac{5}{2}$ d) 3

13. Which one of the following is rational number? [D.B.- 17]

a) $2\sqrt{3}$ b) $\sqrt{7}$
c) $\frac{\sqrt{3}}{\sqrt{2}}$ d) $\frac{\sqrt{12}}{\sqrt{3}}$

14. Which one of the following is a rational number? [R.B.- 17]

a) $\sqrt{11}$ b) $\frac{\sqrt{6}}{3}$
c) $\frac{\sqrt{8}}{\sqrt{7}}$ d) $\frac{\sqrt{27}}{\sqrt{48}}$

15. Which one is the rational number? [Dj.B.- 17]

a) $\sqrt{5}$ b) $\sqrt[3]{8}$
c) $\sqrt{3}$ d) $\sqrt[3]{7}$

16. Which one below is a rational number? [Ctg.B.- 17]

a) $\frac{\sqrt{12}}{3}$ b) $\frac{\sqrt{8}}{2}$
c) $\frac{5}{\sqrt{5}}$ d) $\frac{\sqrt{18}}{\sqrt{2}}$

17. Which one of the following is a rational number? [C.B.- 17]

a) $\sqrt{729}$ b) $\sqrt{11}$
c) $\frac{\sqrt{7}}{3}$ d) 3.2354678 ...

18. Which one is the simple fraction of $0.\dot{4}\dot{5}$? [Dj.B.- 17]

a) $\frac{4}{9}$ b) $\frac{9}{20}$
c) $\frac{5}{11}$ d) $\frac{9}{11}$

19. Which one of the following is simple fraction of $0.2\dot{4}$? [Ctg.B.- 17]

a) $\frac{8}{33}$ b) $\frac{11}{45}$
c) $\frac{4}{15}$ d) $\frac{8}{3}$

20. Which one is the simple fraction of $0.6\dot{9}$? [S.B.- 17]

a) $\frac{7}{11}$ b) $\frac{69}{100}$
c) $\frac{23}{30}$ d) $\frac{7}{10}$

21. Which one is the simple fraction of $0.01\dot{2}$? [J.B.- 17]

a) $\frac{11}{900}$ b) $\frac{11}{990}$
c) $\frac{11}{999}$ d) $\frac{111}{1000}$

22. Which one is the simple fraction of $0.\dot{2}\dot{4}$? [R.B.- 16]

a) $\frac{8}{3}$ b) $\frac{8}{33}$
c) $\frac{8}{5}$ d) 5

23. Which one of the following is a rational number? [B.B.- 16]

a) $\sqrt{0.4}$ b) $\sqrt{0.9}$
c) $\sqrt{0.04}$ d) $\sqrt{0.025}$

24. Which one of the following is irrational? [Ctg.B.- 16]

a) $\frac{\sqrt{5}}{\sqrt{4}}$ b) $\frac{\sqrt{75}}{\sqrt{27}}$
c) $\frac{\sqrt{32}}{\sqrt{8}}$ d) $\frac{\sqrt{18}}{\sqrt{2}}$

25. All integers and fractional numbers are--- [J.B.- 16]

a) Irrational number
b) Rational number
c) Natural number
d) Non-negative number

26. Which one of the following is an irrational number? [D.B.- 15]

a) 4 b) $\sqrt{\frac{16}{9}}$
c) $\sqrt[3]{\frac{64}{8}}$ d) $\frac{3}{\sqrt{2}}$

27. Which one of the following is the common fraction of $0.\dot{4}\dot{5}$? [R.B.- 15]

a) $\frac{4}{9}$ b) $\frac{9}{20}$
c) $\frac{5}{11}$ d) $\frac{9}{11}$

28. Which is the lowest prime number? [J.B.- 15]

a) 0 b) 1
c) 2 d) 3

29. Which one is the simple fraction of $5.7\dot{8}$? [C.B.- 15]

a) $5\frac{78}{90}$ b) $5\frac{78}{9}$
c) $5\frac{71}{90}$ d) $5\frac{71}{9}$

30. Which one of the following is a rational numbers? [C.B.- 15]

a) $\sqrt{11}$ b) $\frac{\sqrt{6}}{3}$
c) $\frac{\sqrt{8}}{\sqrt{7}}$ d) $\frac{\sqrt{27}}{\sqrt{48}}$

31. What is the value of $0.5\dot{1}$? [Ctg.B.- 15]

a) $\frac{23}{45}$ b) $\frac{51}{100}$
c) $\frac{1}{2}$ d) $\frac{23}{99}$

32. Express $0.1\dot{3}$ into simple fraction. Which is correct? [S.B.- 15]

a) $\frac{13}{90}$ b) $\frac{4}{33}$
c) $\frac{13}{99}$ d) $\frac{2}{15}$

33. Which is the Rational number? [Dj.B.- 15]

a) $\sqrt{13}$ b) $\sqrt{14}$
c) $\sqrt{15}$ d) $\sqrt{16}$

34. Which one is the simple fraction of $0.6\dot{6}$? [Dj.B.- 15]

a) $\frac{20}{33}$ b) $\frac{11}{18}$
c) $\frac{61}{100}$ d) $\frac{2}{3}$

35. If p, q, r are real numbers and p < q then-- [R.B.- 15]

i. $pr < qr, when\ r > 0$

ii. $pr < qr, when\ r < 0$
iii. $pr < qr, when\ r \geq 0$

Which one of the following is correct?

a) i and ii b) i and iii
c) ii and iii d) i, ii and iii

36. In real numbers--- [Ctg.B.- 15]

i. $\sqrt{49}$ is a Prime number.
ii. 0.03 is a proper fraction.
iii. $2 + \sqrt{2}$ is a natural number.

Which one of the following is correct?

a) i and ii b) i and iii
c) ii and iii d) i, ii and iii

37. In the real number---- [S.B.- 15]

i. Square root of a number which is not prefect square is an irrational number.
ii. All positive numbers including zero are called non-negative numbers.
iii. Zero in a natural number.

Which one of the following is correct?

a) i and ii b) i and iii
c) ii and iii d) i, ii and iii

38. What is the simple fraction from of $0.\dot{3}6\dot{9}$? [Ctg.B.- 16]

a) $\frac{41}{100}$ b) $\frac{41}{101}$
c) $\frac{41}{110}$ d) $\frac{41}{111}$

39. Which one is the value of $4.3\dot{5}$?

a) $\frac{392}{90}$ b) $\frac{329}{100}$
c) $\frac{478}{90}$ d) $\frac{478}{100}$

40. What is the simple fraction form of $0.\dot{3}6\dot{9}$?

a) $\frac{41}{100}$ b) $\frac{41}{101}$
c) $\frac{41}{110}$ d) $\frac{41}{111}$

41. How many real numbers of the numbers $0.3, 2 + \sqrt{3}, \frac{17}{90}$ are there?

a) 1 b) 2
c) 3 d) 4

42. What is the value of $5.1\dot{2} - 3.4\dot{5}$?

a) $1.6\dot{5}$ b) $1.6\dot{6}$
c) 1.65 d) $1.6\dot{6}\dot{5}$

43. Which number is irrational?

a) $0.\dot{3}$ b) $\sqrt{\frac{16}{9}}$
c) $\sqrt[3]{\frac{8}{27}}$ d) $\frac{5}{\sqrt{3}}$

44. Which is the simple fraction of $0.\dot{4}\dot{5}$?

a) $\frac{4}{9}$ b) $\frac{9}{20}$
c) $\frac{5}{11}$ d) $\frac{9}{11}$

45. What is the product of $0.\dot{3}$ and $0.\dot{6}$?

a) $0.\dot{3}$ b) $0.01\dot{8}$
c) .018 d) 0.5

46. Which one is the following number in between 0.1 and 0.12?

a) 0.10 b) 0.11
c) 0.20 d) .21

47. What is the value of $2.\dot{4} \times 0.\dot{8}\dot{1}$?

a) 2 b) 0.12
c) $0.\dot{2}$ d) $1.\dot{2}$

48. If x = $0.\dot{4}$ and y = $0.\dot{8}$ then- [C.B.- 19]

i. $x + y = 1.\dot{3}$
ii. $xy = \frac{32}{81}$
iii. $\frac{x}{y} = 0.5$

Which one of the following is correct?

a) i and ii b) i and iii
c) ii and iii d) i, ii and iii

49. In case of real number- [S.B.- 17]

i. $\sqrt{81}$ is an odd number
ii. 0.21 is an improper fraction
iii. 0 is an integer

Which one of the following is correct?

a) i and ii b) i and iii
c) ii and iii d) i, ii and iii

50. Of two irrational numbers – [B.B.- 16]

i. Sum is always an irrational number.
ii. Difference is always an irrational number.
iii. Product can be either rational or irrational.

Which one of the following is correct?

a) i and ii b) i and iii
c) ii and iii d) i, ii and iii

51. If a, b, c are real numbers than-- [R.B.- 17]

i. $a(b + c) = ab + ac$
ii. If $a < b$ than $a + c < b + c$
iii. If $a < b$ and $c < 0$ then $ac > bc$

Which one of the following is correct?

a) i and ii b) i and iii
c) ii and iii d) i, ii and iii

52. Zero is -

i. Non-negative number
ii. Rational number
iii. Irrational number

Which one of the following is correct?

a) i and ii b) i and iii
c) ii and iii d) i, ii and iii

53. An irrational number between 1 and 2 is-

i. $\sqrt{3}$
ii. 1.45
iii. $\sqrt{2}$

Identify the correct option on the basis of the above information.

a) i and ii b) i and iii
c) ii and iii d) i, ii and iii

54. The simple fraction $\frac{p}{q}$ is the proper fraction, where a and b are mutually prime and -

i. $b > a$
ii. $b \neq 1$
iii. $b \neq 0$

Which of the following is correct?

a) i and ii b) ii and iii
c) i and iii d) i, ii and iii

55. Observe the following information -

i. $5.\dot{3}\dot{2}$ is a rational number.
ii. $\sqrt{-25}$ is a imaginary number.
iii. $\sqrt{\frac{36}{49}}$ is an irrational number.

Which of the following is correct?

a) i and ii b) ii and iii
c) i and iii d) i, ii and iii

56. Observe the following-

i. 0 is a natural number.
ii. $\sqrt{8}$ is an irrational number.
iii. All the natural numbers are real numbers.

Which of the following is correct?

a) i and ii b) i and iii
c) ii and iii d) i, ii and iii

57. Which one is the general form of odd number?

a) $2n-1, n \in R$ b) $2n-1, n \in N$
c) $2n+1, n \in N$ d) $2n+2, n \in N$

58. Which one is the oldest branch of Mathematics?

a) Algebra b) Arithmetic
c) Trigonometry d) Geometry

59. Which type of numbers 1, 2, 3, ... etc are?

a) Prime numbers
b) Composite numbers
c) Natural numbers
d) Odd numbers

60. What is called the all rational and irrational number?

a) Natural number
b) Prime number
c) Integer
d) Real number

61. What will be the product of three natural numbers?

a) Natural number
b) Integer
c) Imaginary number
d) Irrational number

62. For $n \in N$, which of the following is an odd number?

a) $n+1$ b) $n+2$
c) $2n+1$ d) $2n$

Ans: c

63. For P is an odd natural number, which of the following is an even number?

a) P^2 b) $2P-1$
c) p^2+1 d) $4P-1$

64. If p and q are two natural numbers -

i. pq is always a natural number
ii. $p+q$ is always a natural number
iii. $\frac{p}{q}$ is always a natural number

Which of the following is correct?

a) i and ii b) i and iii
c) ii and iii d) i, ii and iii

65. Which of the following are integers?

a) $-3, -2, 0, 1, 2$ b) $1, \frac{1}{2}, 4, 3, 5$
c) $\sqrt{3}, 1, 0, 3, 6$ d) $6.5, 3, 2, 1, 0$

66. If $a > 0, b < 0$ and a, b are integers, which of the following is positive integer?

a) Ab b) ba
c) $b - a$ d) $a^2 + b^2$

67. How many integers exist between $\sqrt{3}$ and 4?

a) 1 b) 2
c) 3 d) 4

68. If m and n are two integers -

i. $m + n$ is an integer.
ii. $m - n$ is an integer.
iii. mn is an integer.

Which of the following is correct?

a) i and ii b) i and iii
c) ii and iii d) i, ii and iii

Answer the questions (69 - 71) using the following information :

$\sqrt{2} < P < 11, P$ is integer.

69. What is the value of P?

a) 2, 3 b) 1, 3
c) 1, 2, 3 d) 2, 3, 4

70. How many prime numbers exist in the value of P?

a) 1 b) 2
c) 3 d) 4

71. How many composite numbers exist in the value of P?

a) 0 b) 1
c) 2 d) 3

72. $3.\dot{4} - 2.1\dot{3} =$ What?

a) $\frac{131}{90}$ b) $\frac{108}{90}$
c) $\frac{118}{90}$ d) $\frac{128}{90}$

73. If p = 2 and q = 4, What type of number is $\frac{p}{q}$?

a) Improper fraction
b) Proper fraction
c) Integer
d) Natural numbers

74. Divide $7.3\dot{2}$ by $0.2\dot{7}$. Which one is correct?

a) $\frac{290}{11}$ b) $\frac{299}{11}$
c) $\frac{292}{11}$ d) $\frac{299}{10}$

75. If p and q are positive integers and $p > q$ -

i. $\frac{p}{q}$ is improper fraction
ii. $\frac{q}{p}$ is proper fraction
iii. pq is integer

Which of the following is correct?

a) i and ii b) i and iii
c) ii and iii d) i, ii and iii

76. Which one is the rational number?

a) $\sqrt{13}$ b) $\sqrt{14}$
c) $\sqrt{15}$ d) $\sqrt{16}$

77. Which one is the rational number?

a) $\sqrt{11}$ b) $\frac{\sqrt{6}}{3}$
c) $\frac{\sqrt{8}}{\sqrt{7}}$ d) $\frac{\sqrt{27}}{\sqrt{48}}$

78. If a = b and a is natural but not whole squared, which of the following is a rational number?

a) $\sqrt{a}$ b) $\sqrt{b}$
c) $a\sqrt{b}$ d) $\sqrt{ab}$

79. The value of which of the following is prime number?

a) $\frac{\sqrt{32}}{\sqrt{2}}$ b) $\frac{\sqrt{18}}{2}$
c) $\frac{\sqrt{16}}{2}$ d) $\frac{27}{3}$

80. Which one is rational number?

a) $\sqrt{2} \times \sqrt{8}$ b) $\sqrt{2} \times \sqrt{4}$
c) $\sqrt{2} \times \sqrt{9}$ d) $\sqrt{2} \times \sqrt{3}$

81. Square root of which of the following is rational?

a) $\frac{4}{9}$ b) $\frac{4}{3}$
c) $\frac{2}{4}$ d) 8

82. Which one is the following rational number between 0.2 and 0.25?

a) 0.3 b) 0.234
c) 0.15 d) 0.1

83. -

i. $\sqrt[3]{8}$
ii. $\sqrt{\frac{48}{3}}$
iii. $\frac{\sqrt{7}}{3}$

Which of the following is correct?

a) i and ii b) ii and iii
c) i and iii d) i, ii and iii

84. If p and q are integers and $q \neq 0$ -

i. $\frac{p}{q}$ is a rational number

ii. pq is a rational number

iii. $\frac{q}{p}$ is a rational number

Which of the following is correct?

a) i and ii b) i and iii

c) ii and iii d) i, ii and iii

85. Square root of which of the following is an irrational number?

a) 169 b) 225

c) 91 d) 121

86. An irrational number between 1 and 2 is-

i. $\sqrt{3}$

ii. 1.45

iii. $\sqrt{2}+1$

Which of the following is correct?

a) i b) ii and iii

c) i and iii d) i, ii and iii

87. Of two irrational numbers -

i. Sum is always an irrational number.

ii. Difference is always an irrational number.

iii. Product can be either rational or irrational.

Which of the following is correct?

a) i and ii b) i and iii

c) ii and iii d) i, ii and iii

88. If a $= \sqrt{2}$ and b = 3.587 then -

i. a is an irrational number.

ii. ab is a rational number.

iii. (a + b) is an irrational number.

Which of the following is correct?

a) i and ii b) i and iii

c) ii and iii d) i, ii and iii

89. The number 1.6665362..... is -

i. An irrational number.

ii. A non-termination repeating decimal number.

iii. Its square is not an integer square.

Which of the following is correct?

a) i and ii b) i and iii

c) ii and iii d) i, ii and iii

90. If m and n are two irrational numbers and $0 < m < n$ -

i. m + n is an irrational number.

ii. m − n is an irrational number.

iii. mn is must be an irrational number.

Which of the following is correct?

a) i and ii b) i and iii

c) ii and iii d) i, ii and iii

91. Among the numbers of $\sqrt{\frac{12}{3}}$, $\sqrt{3}$ and 12 -

i. First one is rational.

ii. Second one is irrational.

iii. Last one is natural and rational.

Which of the following is correct?

a) i and ii b) i and iii

c) ii and iii d) i, ii and iii

Answer the questions (92 - 94) using the following information :

The four numbers are $\sqrt{625}, \sqrt{4}, \sqrt{2}$ and $\sqrt{32}$.

92. Which of the following is a rational number?

a) $\sqrt{625}$ b) $\sqrt{2}$

c) $\sqrt{32}$ d) $\sqrt{8}$

93. What type of number are the quotients of 1st and 2nd number?

a) Rational b) Irrational

c) Integer d) Even

94. How many rational and irrational numbers exist in the given information?

a) 2 and 2 b) 3 and 1

c) 1 and 3 d) 4 and 0

95. What is the square root of 0.04?

a) 0.2 b) 0.02

c) 0.002 d) 0.016

96. What is the value of $0.\dot{2} \div 0.0\dot{4}$? [B.B.- 17]

a) 0.5 b) $0.\dot{5}$

c) 5 d) 9

97. Which one of the following number is between 1.1 and 1.11?

a) 1.1101 b) 1.002

c) 1.12 d) 1.1001

98. Value of which of the following is finite decimal fraction?

a) $\frac{1}{3}$ b) $\frac{8}{33}$

c) $\frac{7}{11}$ d) $\frac{5}{4}$

99. **All-**

i. Rational numbers are finite or repeating decimal fractions.

ii. Irrational numbers are infinite decimal fractions.

iii. Irrational numbers are infinite repeating decimal fractions.

Which of the following is correct?

a) i and ii b) i and iii

c) ii and iii d) i, ii and iii

100. **If $p = \sqrt{2}$ and $q = \sqrt{18}$ then-**

i. $\frac{p}{q}$ is a finite decimal fraction.

ii. pq is an infinite decimal fraction.

iii. $\frac{q}{p}$ is a finite decimal fraction.

Which of the following is correct?

a) i and ii b) i and iii

c) ii and iii d) i, ii and iii

Answer the questions (101 - 103) using the following information :

The four numbers are $\sqrt{2}, \sqrt{3}, \frac{\sqrt{3}}{\sqrt{27}}$ and $\frac{22}{7}$.

101. **What type of fraction is the fourth number?**

a) Infinite decimal

b) Irrational

c) Finite decimal

d) Finite repeating

102. **What type of decimal fraction is indicated by 3rd number?**

a) Finite

b) Infinite

c) Finite repeating

d) Non repeating

103. **What type of number is indicated by the product of first two numbers?**

a) Rational

b) Integer

c) Finite decimal

d) Infinite decimal

104. **Square root of which of the following real number is a prime number?**

a) $\frac{9}{6}$ b) $\frac{39}{3}$

c) $\frac{54}{6}$ d) $\frac{30}{5}$

105. **Zero (0) is -**

i. Real number

ii. Natural number

iii. Non-negative number

Which of the following is correct?

a) i and ii b) i and iii

c) ii and iii d) i, ii and iii

106. **If a, b and c are real number, then -**

i. $a(b + c) = ab + ac$

ii. $a + c < b + c \; when \; a < b$

iii. $ac < bc \;\; when \;\; a < b, c < 0$

Which of the following is correct?

a) i and ii b) ii and iii

c) i and iii d) i, ii and iii

107. **Real number's -**

i. Addition is real number.

ii. Subtraction is real number.

iii. Production is real number.

Which of the following is correct?

a) i and ii b) i and iii

c) ii and iii d) i, ii and iii

108. **---- are included in real number.**

i. All prime and composite numbers.

ii. All rational numbers.

iii. All irrational numbers.

Which of the following is correct?

a) i and ii b) i and iii

c) ii and iii d) i, ii and iii

109. **If $p = 3$ and $q = 0$ then -**

i. $\frac{p}{q}$ is a real number.

ii. $\frac{q}{p}$ is a real number.

iii. pq is a real number.

Which of the following is correct?

a) i and ii b) i and iii

c) ii and iii d) i, ii and iii

110. **In which branch of Mathematics only positive numbers are used?**

a) Algebra b) Geometry

c) Trigonometry d) Arithmetic

111. **For positive number's -**

i. Square roots may be negative.

ii. Square roots are always positive.

iii. Square are always positive.

Which of the following is correct?

a) i and ii b) i and iii

c) ii and iii d) i, ii and iii

Answer the questions (112 - 114) using the following information :

$$\mathbf{p = 3 \text{ and } q = \sqrt{5}}$$

112. Which of the following is whole squared number?

a) p^2 b) q^2
c) $p + q$ d) $p - q$

113. What types of number is indicated by the value of $p^2 - q^2$?

a) Prime
b) Complete square
c) Decimal fraction
d) Irrational

114. Value of which of the following indicates positive number?

a) $q^2 - p^2$ b) q^2
c) $q - p$ d) $-q^2$

115. Which of the following is negative?

a) 2 b) $(-1)^2$
c) $(-1)^3$ d) $\sqrt{2}$

116. Cube of which of the following number is negative?

a) 2 b) 1
c) 0.25 d) -2

117. Two negative numbers' -

i. Addition negative
ii. Product is negative
iii. Quotient is positive

Which of the following is correct?

a) i and ii b) i and iii
c) ii and iii d) i, ii and iii

Answer the questions (118 - 120) using the following information : p and q are negative integers and $p > q$.

118. Which of the following is negative number?

a) p^2 b) q^2
c) $p^2 + q^2$ d) $p^2 - q^2$

119. Which of the following indicates positive number?

a) $p + q$ b) $p^2 - q^2$
c) $p - q$ d) $q - p$

120. Which type of number is indicated by the value of pq?

a) Positive b) Negative
c) Irrational d) Fraction

121. Which type of number is zero (0)?

a) Positive b) Negative
c) Non-negative d) Composite

122. Which of the following is all non-negative numbers?

a) $0, -1, -2$ b) $0, 0.5, 2$
c) $-3, -1, 0$ d) $1, -0.5, 3$

123. If a, b, c are real numbers and if $a < b$ and $c > 0$, which of the following is correct?

a) $ac = bc$ b) $ac > bc$
c) $ac < bc$ d) $ac \not< bc$

124. If $x < y$ and $z > 0$ then which is correct?

a) $xz > yz$ b) $xz = yz$
c) $xz < yz$ d) $xz.yz = 1$

125. If a, b, c are real numbers then-

i. $a(b + c) = ab + ac$
ii. If $a < b$ then $a + c < b + c$
iii. If $a < b$ and $c < 0$ then $ac > bc$

In the light of the above information Which one of the following is correct?

a) i and ii b) i and iii
c) ii and iii d) i, ii and iii

Answer the questions (126 - 128) using the following information:
a, b, c are three numbers.

126. If a and b are integer and $a > b > 0$, which of the following is natural number?

a) $a - b$ b) $b - a$
c) $b^2 - a^2$ d) $b - 2a$

127. If a and b are co-prime and natural numbers and if $b \neq 0 \neq c$, which of the following is rational number?

a) $\sqrt{a}$ b) $\sqrt{b}$
c) $\sqrt{\frac{a^2}{b^2}}$ d) $\frac{\sqrt{ab}}{c}$

128. If b = c which of the following is correct?

a) $a + b = a + c$ b) $a + b = b + c$
c) $a + b \neq a + c$ d) $a + b \neq b + c$

129. Which of the following infinite decimal fraction number?

a) 0.3335 **b) $0.\dot{3}5\dot{6}$**
c) 0.2345 d) 0.233

130. Which of the following is infinite repeating decimal number?

a) 1.2323 ..... b) 1.52305006 ...
c) 1.73205 ... d) 2.12340 ...

131. How can the rational numbers $\frac{5}{11}$ and $\frac{10}{3}$ be expressed?

a) In infinite decimal.
b) In integer.
c) In repeating decimal.
d) In non-repeating decimal.

Answer the questions (132 - 134) using the following information :

1.723, 5.2333..., 0.0025, 2.1356124...., 0.01051005..... and 0.450123 are decimal fractions.

132. How many fractions exist in the infinite repeating decimals?

a) 1 b) 2
c) 3 d) 4

133. How many rational numbers exist in the fractions?

a) 5 b) 4
c) 3 d) 2

134. What kind of number is the square root of 0.0025?

a) Finite decimal
b) Infinite decimal
c) Natural
d) Irrational

135. In case of like repeating decimals of $2.\dot{2}\dot{3}$, $0.43\dot{2}$ and $1.5\dot{3}\dot{2}$ the digits in repeating part will be.

a) 2 b) 3
c) 5 d) 6

136. Which of the following is obtained after expressing $\frac{3}{11}$ into decimal fraction?

a) 0.7272 b) 0.27
c) $0.\dot{2}\dot{7}$ d) 0.277 ....

137. Which is the repeating decimal of $\frac{7}{11}$?

a) 0.6363 b) $0.\dot{6}$
c) $0.\dot{6}\dot{3}$ d) 0.63 ....

138. Which one is the mixed repeating decimal?

a) 2 b) $1.\dot{2}\dot{3}$
c) 0 d) 4

139. Which is of the following is the repeating decimal fraction of $3\frac{2}{3}$?

a) $0.\dot{1}\dot{6}$ b) $0.\dot{6}\dot{3}$
c) $3.\dot{6}$ d) $3.5\dot{3}$

140. If the value of $\sqrt{5}$ is 2.360679..... it is -

i. An irrational number.
ii. A finite repeating decimal number.
iii. A infinite uncovered decimal number.

Which one of the following is correct?

a) i and ii b) i and iii
c) ii and iii d) i, ii and iii

141. Which one is the simple fraction of $0.\dot{4}\dot{5}$?

a) $\frac{4}{9}$ b) $\frac{9}{20}$
c) $\frac{5}{11}$ d) $\frac{9}{11}$

142. Which one is the simple fraction of $0.6\dot{1}$?

a) $\frac{20}{33}$ b) $\frac{11}{18}$
c) $\frac{61}{100}$ d) $\frac{2}{3}$

143. Which one is the simple fraction of $0.1\dot{3}$?

a) $\frac{12}{90}$ b) $\frac{2}{15}$
c) $\frac{13}{90}$ d) $\frac{13}{9}$

144. Which one is the simple fraction of $0.\dot{3}$?

a) $\frac{1}{6}$ b) $\frac{1}{3}$
c) $\frac{2}{4}$ d) $\frac{1}{4}$

145. What is the value of $0.1\dot{6} \times 0.\dot{3}$? [C.B.- 16]

a) $\frac{2}{3}$ b) $\frac{1}{3}$
c) $\frac{1}{9}$ d) $\frac{1}{18}$

146. Which one is the simple fraction of $0.\dot{2}$?

a) $\frac{2}{3}$ b) $\frac{2}{8}$
c) $\frac{2}{9}$ d) $\frac{1}{7}$

147. Which one of the following can be expressed into repeating decimal?

a) $\frac{5}{2}$ b) $\frac{\sqrt{5}}{2}$
c) $\frac{3}{11}$ d) $\frac{5}{4}$

148. Express $0.1\dot{3}$ into simple fraction. Which one is correct?

a) $\frac{13}{90}$ b) $\frac{4}{33}$
c) $\frac{13}{99}$ d) $\frac{2}{15}$

149. In case of the numbers $9.\dot{3}\dot{5}$ and $4.\dot{3}$---

i. The addition is $13.\dot{6}\dot{8}$.
ii. The subtraction is $5.\dot{0}\dot{2}$.
iii. The repeating decimal part is dissimilar.

Which one of the following is correct?

a) i and ii b) i and iii
c) ii and iii d) i, ii and iii

Answer to the questions (150 – 152) using the following information :

$0.0\dot{1}\dot{2}$ and $3.7\dot{8}$ are two decimal fractions.

150. Which of the following is the simple fraction of 1st term?

a) $\frac{12}{990}$ b) $\frac{12}{90}$
c) $\frac{2}{165}$ d) $\frac{12}{99}$

Ans: c

151. Which of the following is the simple fraction of 2nd term?

a) $\frac{341}{90}$ b) $\frac{379}{90}$
c) $\frac{378}{90}$ d) $\frac{381}{90}$

152. Which of the following is the repeating decimal fraction of 2nd term – 1st term?

a) $3.\dot{3}$ b) 3.66
c) $3.\dot{6}$ d) $3.7\dot{7}\dot{6}$

153. Which of the following are like repeating decimal numbers?

a) $6.4\dot{3}\dot{5}$, $2.89\dot{3}$
b) $12.4\dot{5}$, $6.3\dot{2}$
c) $0.3\dot{4}\dot{5}$, $7.\dot{4}5\dot{7}$
d) 9,453, $125.89\dot{7}$

154. Which of the following are dissimilar and repeating decimal numbers?

a) $12.\dot{4}\dot{5}$ and $6.3\dot{2}$
b) $9.45\dot{3}$ and 125.897
c) $0.3\dot{4}5\dot{6}$ and $7.45\dot{7}8\dot{9}$
d) 2.3 and $5.2\dot{3}\dot{5}$

155. Two decimal fractions $2.0\dot{9}\dot{7}$ and $5.12\dot{7}6\dot{8}$ are---

i. Dissimilar and irrational.
ii. Rational.
iii. Addition is repeating decimal.

Which one of the following is correct?

a) i and ii b) i and iii
c) ii and iii d) i, ii and iii

156. Which of the following is possible to change into repeating fraction?

a) $\sqrt{3}$ b) $\sqrt{7}$
c) $\sqrt{15}$ d) $\frac{10}{3}$

157. Repeating fraction-

i. $0.\dot{2}\dot{4}$ can be expressed into simple fraction $\frac{24}{99}$.
ii. $9.1\dot{2}\dot{4}$ and $0.\dot{2}\dot{4}$ are two like repeating decimal fractions.
iii. $9.\dot{2}\dot{4}$ and $0.\dot{2}\dot{4}$ are two like repeating decimal fraction.

Which one of the following is correct?

a) i and ii b) i and iii
c) ii and iii d) i, ii and iii

158. Which of the following is obtained after addition or subtraction of repeating decimals?

a) Repeating decimal.
b) Non-repeating decimal.
c) Finite decimal.
d) Infinite non-repeating decimal.

159. Which of the following is the value of $2.0\dot{5} + 8.0\dot{4}$?

a) $10.5\dot{4}$ b) $10.0\dot{9}$
c) $10.4\dot{5}$ d) 10

160. $0.\dot{3} - 0.\dot{2}$ = What?

a) 0.1 b) $0.\dot{9}$
c) $0.\dot{1}$ d) 0.112 ...

Answer the questions (161 - 163) using the following information :

$0.\dot{3}\dot{9}$, $\frac{23}{6}$ and $3.0\dot{4}\dot{5}$ are three repeating decimals.

161. Which of the following is correct in case of converting the given three numbers into repeating decimals?

a) $0.3\dot{9}\dot{3}, 3.83\dot{3}, 3.0\dot{4}\dot{5}$

b) $0.3\dot{9}\dot{3}, 3.08\dot{3}\dot{3}, 3.\dot{0}\dot{4}\dot{5}$

c) $0.3\dot{9}\dot{3}, 3.8\dot{3}\dot{3}, 3.0\dot{4}\dot{5}$

d) $0.3\dot{9}3\dot{3}, 3.8\dot{3}3\dot{3}, 3.\dot{0}\dot{4}\dot{5}$

162. Which of the following is the addition of the first two numbers?

a) $4.2\dot{2}\dot{7}$ b) $4.2\dot{7}\dot{2}$

c) 4.227 d) 4.2272

163. Which of the following is the subtraction of 1st number from 3rd number?

a) 2.655 b) 2.651

c) $2.6\dot{5}1\dot{5}$ d) $2.6\dot{5}\dot{1}$

164. What is the general form of even number?

a) $2n$ b) $2n + 1$

c) $(n + 1)^2$ d) $(2n + 1)^2$

165. Which of the following is the value of $0.\dot{3} \times 0.\dot{3}$?

a) $0.\dot{9}$ b) $0.0\dot{9}$

c) $0.\dot{1}$ d) $0.0\dot{1}$

166. Which of the following is the value of $2.\dot{4} \times 0.\dot{8}\dot{1}$?

a) 2 b) $0.\dot{2}$

c) 0.12 d) $1.\dot{2}$

167. $0.\dot{3} \div 0.\dot{6}$ = What?

a) 2 b) 0.5

c) 1 d) 0.2

168. What is the approximate value upto two decimals of $\sqrt{0.\dot{2}\dot{5}}$?

a) 0.05 b) $0.\dot{5}$

c) $0.0\dot{5}$ d) 0.50

169. What is the simple value of $0.3\dot{5} \div 0.0\dot{8}$?

a) 2 b) 3

c) 4 d) 9

170. What is the value of $0.\dot{3} \times 0.\dot{6}$?

a) $0.\dot{8}$ b) $1.1\dot{8}$

c) $0.\dot{2}$ d) $0.0\dot{2}$

171. $0.3\dot{5} \div 0.0\dot{8}$ Which one of the following is correct result?

a) 1 b) 2

c) 3 d) 4

172. If x = - 5 then What is the value of $|x|$?

a) -5 b) 5

c) x d) $-x$

173. If $p = 0.6\dot{2}$ and $q = 0.\dot{3}$ then

i. $p = \frac{28}{45}$

ii. $q = \frac{3}{9}$

iii. $pq = \frac{28}{135}$

Which one of the following is correct?

a) i and ii b) i and iii

c) ii and iii d) i, ii and iii

Answer the questions (174 - 176) using the following information :

$p = 0.\dot{3} \times 0.8\dot{3}$, $q = 0.5 \times 0.\dot{1}$ and $r = 0.3\dot{5} \div 0.0\dot{8}$

174. What is the value of p?

a) $\frac{5}{18}$ b) $\frac{3}{83}$

c) $\frac{18}{5}$ d) 0.2

175. What is the value of p ÷ q?

a) 4 b) 4.4

c) 5 d) 6

176. What is the value of p ÷ q + r?

a) 9 b) 4

c) 18 d) 13

177. The value of which of the following is infinite decimal fraction?

a) $12.\dot{4}\dot{5}$ b) $\sqrt{2}$

c) 0.012 d) $10.78\dot{4}23423\dot{4}$

178. Infinite decimals are basically-

i. Irrational number.

ii. Square root of positive numbers those are not whole squared.

iii. Real number.

Which one of the following is correct?

a) i and ii b) i and iii

c) ii and iii d) i, ii and iii

179. Which of the following is the approximate value of $\sqrt{12}$?

a) 2.464101 b) 3.464102

c) 4.461106 d) 4.464105

Answer the questions (180 - 182) using the following information :

The numbers are $3.\dot{2}\dot{2}, 6.2\dot{3}0\dot{9}$ and $\sqrt{289}$

180. In case of the three numbers which of the following is correct?

a) There exists rational number among the three numbers.
b) 1st two numbers are like repeating decimal numbers.
c) Last two numbers are infinite decimal numbers.
d) Three numbers are rational.

181. Which of the following is the approximate value of 3rd number?

a) 17 b) 19
c) 18 d) 27

182. What type of number is $\sqrt{189}$?

a) Rational b) Irrational
c) Natural d) Integer

183. Which numbers are irrational?

a) $0.\dot{3}$ b) $\sqrt{\frac{16}{9}}$
c) $\sqrt[3]{\frac{8}{27}}$ d) $\frac{5}{\sqrt{3}}$

184. If a, b, c, d are four consecutive natural numbers which one of the following will be a whole squared?

a) abcd b) ab + cd
c) abcd + 1 d) abcd − 1

185. How many primes are there from 1 to 10?

a) 3 b) 4
c) 5 d) 6

186. Which one is the set of all integers?

a) $\{\ldots -4, -2, 0, 2, 4, \ldots\ldots\}$
b) $\{\ldots -2, -1, 0, 1, 2, \ldots\ldots\}$
c) $\{\ldots -3, -1, 0, 1, 3 \ \ldots\ldots\}$
d) $\{0, 1, 2, 3, 4\}$

187. In case of real numbers

i. Square of an odd integer is odd.
ii. Product of two even numbers is even
iii. Square root of a number that is not whole squared is an irrational number.

Which one of the following is correct?

a) i and ii b) i and iii
c) ii and iii d) i, ii and iii

188. Product of three consecutive numbers will always be divisible by which of the following numbers?

a) 5 b) 6
c) 7 d) 11

189. If a end b are two consecutive even numbers, then which of the following numbers is odd?

a) a^2 b) b^2
c) $a^2 + 1$ d) $b^2 + 2$

190. If a end b are two integers, then what should be added to $a^2 + b^2$ to obtain a whole squared?

a) $-ab$ b) ab
c) $2ab$ d) 4ab

Creative Questions:

1. $\sqrt{5}$ and 4 are two real numbers.

a) Specify which one is rational and which one is irrational.
b) Find two irrational numbers between $\sqrt{5}$ and 4.
c) Prove that, $\sqrt{5}$ is an irrational number.

2. n is a natural number then $n = 2x - 1$, where $x \in \mathbb{N}$. [Dj.B.- 16]

a) What is the natural number?
b) Show that, square of that given numbers is an odd number.
c) Prove that, when the square of that given number is divided 8 every time the remind is 1.

3. $\sqrt{5}$ and 4 are two real numbers.

a) Which number's real and which one is irrational number.
b) Find two irrational numbers between this two given numbers.
c) Prove that, $\sqrt{5}$ is an irrational number.

4. $n = 2x - 1$, where $x \in \mathbb{N}$.

a) Divide 9.5 by $2.8\dot{6}\dot{3}$.

b) Show that, if n^2 divided by 8 (eight) invery case the remainder will remain 1.

c) Prove that, $\sqrt{n}$ is an irrational number, where x = 6.

Basic Information

- During 750 – 690 B.C. Greek mathematicians gave concepts about infinite numbers.
- Do you know, the fraction method was not available until 17th century in Europe?
- Fractions were used in Egypt at 1000 B.C.
- They used to calculate with figures. This method was know as hieroglyphs.
- It is assumed that infinite numbers were first used in before 600 B.C. at Shulba Sutras

- The rule of chords, which is a Beda related book.
- At 500 B.C. Pythagoras felt the necessity to use infinite numbers for $\sqrt{2}$.
- Indian and Chinese mathematicians in the middle age and later on, the Arabian mathematicians started using Zero, Negative, Fraction and Real Numbers.
- Arabian mathematicians first adopted infinite numbers as algebraic component.
- Infinite numbers were recognized due to solution of modern decimal system and enforced that is no difference between finite and infinite numbers.
- In the 17th century Descante used the word "Real" to differentiate with imaginary numbers.
- More works were done in the 18th and 19th century π and e (transcendental) numbers were proved.
- In 1871 Georg Cantor gave a solid definition of real numbers.
- German mathematician Richard Dedekind (1831 – 1916) redefined irrational numbers by utilizing the method Dedekind cut.
- He has great contribution in different sectors of mathematics, especially in Abstract algebra, Algebraic Number Theory and in the fundamental theories of Real Number.