

CONCEPT APPLICATION LEVEL - II

SECTION - A

• FILL IN THE BLANKS

- Q.1 Every linear equation in two variable has _____ solutions.
- Q.2 If $\frac{1}{2} - x = \frac{1}{2}$, then $x =$ _____
- Q.3 Solution of the equation $\frac{p+1}{5} = -\frac{3(p-1)}{10} + 2$ is _____
- Q.4 Solution of $0.18(5x - 4) = 0.5x + 0.8$ is _____.

SECTION - B

• MULTIPLE CHOICE QUESTIONS

- Q.1 If $\frac{x+a}{x-a} - \frac{x-b}{x+b} = \frac{2(a+b)}{x}$, then $x =$
- (A) $\frac{a}{a-b}$ (B) $\frac{b}{a-b}$ (C) $\frac{ab}{a-b}$ (D) $\frac{ab}{b-a}$
- Q.2 Solve $\frac{2x-3}{2} - \frac{x+1}{3} = \frac{3x-8}{4}$.
- (A) 1 (B) 2 (C) $\frac{4}{5}$ (D) $\frac{5}{8}$
- Q.3 Solve: $\frac{7y+4}{y+2} = \frac{-4}{3}$.
- (A) $\frac{5}{8}$ (B) $\frac{-4}{5}$ (C) 1 (D) $\frac{-5}{8}$
- Q.4 The value of x , for which $\frac{1-x}{2-x} = 0$ is
- (A) $1/2$ (B) -1 (C) 1 (D) $-1/2$
- Q.5 If $5(x-3) - 4(x-2) = 0$ then the value of x is
- (A) 7 (B) -7 (C) 8 (D) -8
- Q.6 The sum of two number is 45 and their ratio is 7 : 8. The numbers are
- (A) 28 : 32 (B) 35 : 40 (C) 21 : 24 (D) none of these
- Q.7 Five times the number increased by 4 is equal 39. The number is
- (A) 4 (B) 5 (C) 7 (D) 6

- Q.8 If $\frac{5x}{6} + \frac{3x}{4} = \frac{19}{12}$, then the value of x is
(A) -1 (B) -2 (C) 1 (D) 2
- Q.9 The solution of the equation $(p + 2)(p - 3) + (p - 3)(p - 4) = p(2p - 5)$ is
(A) 2 (B) 7 (C) 5 (D) None
- Q.10 The equation $\frac{12x+1}{4} = \frac{15x-1}{5} + \frac{2x-5}{3x-1}$ is true for
(A) $x = 1$ (B) $x = 2$ (C) $x = 5$ (D) $x = 7$
- Q.11 Pick up the correct value x for which $\frac{x}{0.5} - \frac{1}{0.05} + \frac{x}{0.005} - \frac{1}{0.0005} = 0$
(A) $x = 0$ (B) $x = 1$ (C) $x = 10$ (D) None
- Q.12 A boat covers a certain distance downstream in 3 hours, and it covers the same distance upstream in 5 hours. If the speed of the boat in still water is 8 km/hr, then the speed of the stream is
(A) 1 km/hr (B) 1.5 km/hr (C) 2 km/hr (D) 3 km/hr
- Q.13 The angle A of a triangle ABC is equal to the sum of the two other angles. Also the ratio of the angle B to angle C is 4 : 5. The three angles are
(A) $90^\circ, 40^\circ, 50^\circ$ (B) $90^\circ, 55^\circ, 35^\circ$ (C) $90^\circ, 60^\circ, 30^\circ$ (D) None of these
- Q.14 The age of Reena and Tina are in the ratio 3 : 4. Five years ago their age were in the ratio 2 : 3. Find their present ages.
(A) 15 , 20 (B) 20 , 80 (C) 30 , 40 (D) 12 , 16
- Q.15 The perimeter of a rectangle is 72m. Its length is 10m more than the breadth. Find the length and breadth of the rectangle.
(A) 13 , 23 (B) 14 , 24 (C) 15 , 25 (D) 12 , 22
- Q.16 A number plus two-third of itself, plus half to itself, plus one-seventh of itself equals 97. Find the number.
(A) 24 (B) 46 (C) 42 (D) 62
- Q.17 A labourer was engaged for a month (30 days) on the condition that he will receive Rs. 60 each day he works and will be fined Rs. 10 each day he is absent. At the end of the month he received Rs. 1380. How many days did he work?
(A) 25 (B) 28 (C) 24 (D) 23
- Q.18 Rohan spent, $\frac{1}{2}$ of his pocket money on lunch, $\frac{1}{3}$ on conveyance and gave the remaining money to his sister Sweety. If Sweety got Rs. 5, how much pocket money did Rohan get? How much did he spend on lunch?
(A) 15 (B) 13 (C) 14 (D) 12

- Q.19 Sum of the digits of a 2-digit number is 9. When the digits are reversed (interchanged), it is found that the resulting number is greater than the original number by 27. Find the number.
(A) 63 (B) 45 (C) 54 (D) 36
- Q.20 Two third of a number increased by 19 gives the result as 29. Find the number.
(A) 25 (B) 15 (C) 12 (D) 14
- Q.21 Divide 18 into two parts such that the larger part divided by the smaller part gives the quotient 2. What is the larger part ?
(A) 6 (B) 12 (C) 9 (D) 18
- Q.22 Rahul has 260 coins of Re. 1, Rs. 2 and Rs. 5 altogether. The total value of the money is Rs. 309. The number of Rs. 2 coins is three times the number of Rs. 5 coins. Find the number of 1 Rs coins.
(A) 232 (B) 200 (C) 210 (D) 243
- Q.23 The numerator of a fraction is six more than the denominator. If the numerator is increased by 5 and the denominator is decreased by 1, the fraction becomes $\frac{3}{2}$. Find the denominator.
(A) 25 (B) $\frac{27}{29}$ (C) $\frac{1}{25}$ (D) $\frac{29}{30}$
- Q.24 Solve: $\frac{x^2 - (x+2)(x+3)}{x+3} = \frac{2}{3}$.
(A) $\frac{24}{17}$ (B) $\frac{-24}{17}$ (C) $\frac{28}{17}$ (D) $\frac{-28}{17}$
- Q.25 The diagonal of a rectangle is 5 cm and one of its sides is 4 cm. Its area is
(A) 20 cm² (B) 12 cm² (C) 10 cm² (D) None
- Q.26 The sum of two digits of a two digit number is 12. If the digits are reversed, then the number so formed exceeds the original number by 18. Find the original number.
(A) 57 (B) 85 (C) 75 (D) None
- Q.27 The sum of the digits of a two-digits is 14. When the digits of this number are reversed, the new number formed is greater than the original number by 36. Find the original number.
(A) 59 (B) 95 (C) 68 (D) 86
- Q.28 The length of a rectangle is 16m less than 2 times its width. If its perimeter is 112m, find its length and width.
(A) 24 , 36 (B) 24 , 32 (C) 32 , 36 (D) 32 , 24
- Q.29 Half of a herd of deer are grazing in the field and three-fourths of the remaining are playing nearby. The rest 9 are drinking water from the pond. Find the number of deer in the herd.
(A) 70 (B) 69 (C) 72 (D) 75

- Q.30 Lakshmi is a cashier in a bank. She has currency notes of denominations of Rs. 100, Rs. 50 and Rs. 10 respectively. The ratio of the number of these notes is 2 : 3 : 5. The total cash with Laxmi is Rs. 4,00,000. How many notes of each denomination does she have ?
 (A) 5000 (B) 3000 (C) 2000 (D) 10000
- Q.31 The organisers of an essay competition decided that a winner in the competition gets a prize of Rs. 100 and a participant who does not win gets a prize of Rs. 25. The total prize money distributed is Rs. 3000. Find the number of winners, if the total number of participants is 63.
 (A) 54 (B) 55 (C) 56 (D) 19
- Q.32 The sum of the digits of a 2-digit number is 6. On reversing its digits, the new number, is 18 less than the original number. Find the number.
 (A) 24 (B) 42 (C) 51 (D) 15
- Q.33 The numerator of a fraction is 6 less than the denominator. If 1 is added to both numerator and denominator, the fraction becomes $\frac{1}{2}$. Find the fraction.
 (A) $\frac{5}{11}$ (B) $\frac{12}{13}$ (C) $\frac{14}{15}$ (D) $\frac{6}{13}$
- Q.34 At present the sum of Mala's age and her daughter's age is 44 years. After 2 years, daughter's age will be three times that of her daughter's age. Find their present ages.
 (A) 33 , 11 (B) 35 , 9 (C) 32 , 12 (D) 34 , 10
- Q.35 Rooplal left one-third of his property to his son, one-fourth to his daughter and the remaining to his wife. If the wife's share was worth Rs. 32000, how much money did Roopalal have ?
 (A) 76800 (B) 77880 (C) 78000 (D) 76000
- Q.36 Solve for x if $kx + a = mx + b$
 (A) $\frac{a-b}{k-m}$ (B) $\frac{b-a}{k-m}$ (C) $\frac{b-a}{m-k}$ (D) $\frac{a-b}{k}$
- Q.37 Solve for x : $(\sqrt{5} + 5)x + 4 = 2\sqrt{5} + 8$.
 (A) $\frac{2\sqrt{5}+4}{\sqrt{5}+5}$ (B) $\frac{5+4\sqrt{5}}{\sqrt{5}+5}$ (C) $\frac{2\sqrt{5}+4}{5+5\sqrt{5}}$ (D) $\frac{2\sqrt{5}+4}{4\sqrt{5}+20}$
- Q.38 Solve for y : $\frac{1}{2}(3y+1) - \frac{1}{3}(5y+2) = y-1$.
 (A) $\frac{5}{8}$ (B) $\frac{5}{7}$ (C) $\frac{7}{9}$ (D) $\frac{8}{11}$
- Q.39 Solve for x : $\frac{6x-7}{2x+1} = \frac{3x+1}{x+5}$.
 (A) 5 (B) 3 (C) 2 (D) 1

- Q.40 A number consists of two digits. The digit at ten's place is two times the digit at the unit's place. The number formed by reversing the digits, is 27 less than the original number. Find the original number.
 (A) 63 (B) 36 (C) 42 (D) 84
- Q.41 Divide 300 into two parts so that half of one part may be less than the other by 48. Find the larger part.
 (A) 132 (B) 168 (C) 160 (D) 170
- Q.42 The sum of two-digit number and the number obtained by reversing the order of its digits is 165. If the digits differ by 3, find the number.
 (A) 96 (B) 69 (C) both (A) and (B) (D) None of these
- Q.43 An altitude of a triangle is five-third the length of its corresponding base. If the altitude was increased by 4 cm and the base is decreased by 2cm, the area of the triangle would remain the same. Find the altitude of the triangle.
 (A) 30 (B) 35 (C) 20 (D) 25

SECTION - C

• COMPREHENSION

I Suppose a number I divide it by 15 and then divide the quotient by 16. Then multiply the final quotient by 30 from the product so obtained. I subtract the number which I supposed, the result is -7 .

Q.1 Form an equation

(A) $\frac{x}{15 \times 16} \times 30 - x = -7$

(B) $\frac{16}{15}x \times (30 - x) = -7$

(C) $\frac{15}{16}x \times (30 - x) = -7$

(D) None

Q.2 Find the value of the number

(A) $x = 4$

(B) $x = 8$

(C) $x = 1$

(D) $x = 0$

Q.3 Find the value of p. If $px + x = 8$ and the number obtained from (ii) will satisfy the equation

(A) $p = 0$

(B) $p = 8$

(C) $p = 1$

(D) None

SECTION - D

• MATCH THE COLUMN

Q.1

Column I

Column II

(A) Solution of $2x - 3 = 7$ is

(p) -8

(B) Solution of $\frac{15}{4} - 7x = 9$ is

(q) 0.6

(C) Solution of $1.6 = \frac{y}{1.5}$ is

(r) $-\frac{3}{4}$

(D) Solution of $0.25(4t - 3) = 0.05(10t - 9)$ is

(s) 5

(E) Solution of $\frac{3x + 4}{2 - 6x} = -\frac{2}{5}$ is

(t) 2.4