

《《《 CDS/CAPF 》》》

VIRAAAT 2.0

2024

Number System

DPP solution

Mathematics

Lecture - 06

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TOPICS *to be covered*

1

DPP-01,02,03,04,05

Yes

2

3

4

Q1 If x is positive even integer and y is negative odd integer, then x^y is

(A) Odd integer

(B) Even integer

(C) Rational number

(D) None of these

$$x = +\text{even} = 2$$

$$y = -\text{odd} = -1$$

$$x^y = 2^{-1} = \frac{1}{2}$$

Rational Number

Q2 The rational number lying between $\sqrt{2}$ and $\sqrt{3}$ is?

$$\begin{array}{ccc} \downarrow & & \downarrow \\ 1.414 & & 1.732 \end{array}$$

$$1.6$$

- ☒ (A) $\frac{49}{28}$ $\frac{7}{4} = 1.75$
- ☒ (B) $\frac{56}{35}$ $\frac{8}{5} = 1.6$
- ☒ (C) $\frac{63}{45}$ $\frac{63}{45} \cdot \frac{7}{5} = 1.40$
- ☒ (D) $\frac{85}{68}$

Q3 Consider the following statements :

1. The product of any three consecutive integers is divisible by 6 .

2. Any integer can be expressed in one of the three forms $3k$, $3k + 1$, $3k + 2$ where k is an integer.

Which of the above statements is/are correct ?

(A) 1 only

(B) 2 only

(C) Both 1 and 2

(D) Neither 1 nor 2

✓
 $17 \times 18 \times 19$

$19 \times 20 \times 21$
↓ ↓
 2×3

$0, 1, 2$ $k=1$
 $3, 3+1, 3+2$
 $3, 4, 5$



Q4 If n is a natural number, then \sqrt{n} is ^{\mathbb{R}/\mathbb{Z}}

(A) always a natural number

(B) always a rational number

(C) always an irrational number

(D) either a natural number or an irrational number



Q5 What is the value of x for which $x, x+1, x+3$ are all prime numbers?

~~(A) 0~~

(C) 2

~~(B) 1~~

(D) 101

$$2, 2+1=3, 2+3=5$$

{2, 3, 5}

prime numbers



Q6 Which one of the following is an infinite set?

~~(A)~~ $\{x: x \text{ is a whole number less than or equal to } 1000\}$ $\{0, 1, 2, 3, \dots, 999\}$

~~(B)~~ $\{x: x \text{ is a natural number less than } 1000\}$ $\{1, 2, \dots, 999\}$

~~(C)~~ $\{x: x \text{ is a positive integer less than or equal to } 1000\}$ $\{1, 2, \dots, 999\}$

(D) $\{x: x \text{ is an integer and less than } 1000\}$

Roster form
Set builder

$\{ \dots, -3, -2, -1, 0, 1, 2, 3, \dots, 999 \}$
-ve \downarrow +ve
 $\{0\}$



Q7 Consider the question and two statements given below :

Let x and y be two real numbers.

Question: Is $xy > 0$?

Statement-1: $x^8y^9 < 0$.

Statement-2: $x^9y^{10} < 0$.

Which one of the following is correct in respect of the question and the statements?

- (A) Statement-1 alone is sufficient to answer the question
- (B) Statement-2 alone is sufficient to answer the question

(C) Both Statement-1 and Statement-2 are sufficient to answer the question

(D) Both Statement-1 and Statement-2 are not sufficient to answer the question

x $|x| > 0$
 $-1 < x < 1$
 $x = (-)$
 $y = (-)$

$x = +1$
 $y = +1$

$x = -1$
 $y = -1$

$x = +$
 $y = +$

$|x| < 0$

$x = (-)$
 $y = (-)$
 $|x-1| < 0$

x, y



Q8 Let x and y be positive integers such that x is prime and y is composite. Which of the following statements are correct?

✓ 1. $(y-x)$ can be an even integer

✓ 2. xy can be an even integer

✓ 3. $0.5(x+y)$ can be an even integer

Select the correct answer using the code given below :

(A) 1 and 2 only

(C) 1 and 3 only

(B) 2 and 3 only

(D) 1, 2 and 3

$x = \text{prime Number}$ (1, it self)
 $y = \text{composite}$ {2}
↓ Only even prime is 2
↓ Smallest Composite Number {4}
(More than factor)
 $(4-2) = 2 - \text{even Number}$
 $4 \times 2 = 8 = \text{even Number}$
 $\frac{1}{2}(2+6) = \frac{1}{2} \times 8 = 4$
 $y=6 \rightarrow \text{also composite \& even integer}$

Q9 The pair of rational numbers that lies between

$\frac{1}{4}$ and $\frac{3}{4}$ is

0.25

0.75

(A) $\frac{262}{1000}, \frac{752}{1000}$

(B) $\frac{24}{100}, \frac{74}{100}$

(C) $\frac{9}{40}, \frac{31}{40}$

(D) $\left(\frac{252}{1000}, \frac{748}{1000} \right) = \underline{0.252, 0.748}$

Q10 Find which of the following are twin primes

~~(A) (37, 41)~~

~~(B) (3, 7)~~

(C) (71, 73)

(D) (43, 47)

twin prime Number

(p_1, p_2) = prime Number

$$p_1 - p_2 = 2$$

DPP-02



- Q1** What is the last digit in $\underline{7}^{\underline{402}}$ + $\underline{3}^{\underline{402}}$?
- (A) 0 (B) 4
- ~~(C) 8~~ (D) None of these

$$\begin{array}{r} 49 \\ 9 \\ \hline 18 \end{array}$$



Q2 The digit in the unit's place of the number represented by $(7^{\underline{95}} - 3^{\underline{58}})$ is ?

(A) 6

(B) 7

(C) 0

(D) 4

$$7^3 - 3^2$$

$$34 \overline{) 139}$$

$$\begin{array}{r} 4 \\ \hline 139 \end{array} \text{ unit digit}$$

Q3 What will be the unit digit of

$$(254)^{37} \times (321)^{49} \times (17)^{\underline{32}^4} ?$$

(A) 4

(B) 1

(C) 7

(D) 2

$$4 \times 1 \times 7^4$$

$$= 4 \times 1 \times 1$$

$$= 4$$



$$100! = 1 \times 2 \times 3 \times 4 \times \dots \times 100$$

Q4 Find the number of zeroes in

$$\underline{10} \times \underline{20} \times \underline{30} \times \dots \times \underline{1000}.$$

- (A) 100
- (B) 124
- (C) 120
- (D) 150

$$(1 \times \underline{10}) \times (2 \times \underline{10}) \times (3 \times \underline{10}) \dots 100 \times \underline{10}$$

$$= 10^{100} \times \{1 \times 2 \times 3 \times 4 \dots 100\}$$

Number of zero = $10^{100} \times \frac{100!}{\sqrt{}}$

$$= 10^{100} \times 10^{24} = 10^{100+24} = 10^{124}$$

$$\frac{100}{5} = 20$$

$$\frac{20}{5} = \frac{4}{1}$$



Q5 Find out the number of zeros at the end of

$$20 \times 15 \times 16 \times 44 \times 72 \times 95 \times 25$$

$$\begin{array}{c} (2 \times 5) \\ \downarrow \\ \hline 2\text{-zero} \end{array}$$

✓ (A) 2

(C) 4

(B) 3

(D) 5

①

①

①

②

Total Number of zero = 5

Q6 How many zeros are there in the product

$$1^{50} \times 2^{49} \times 3^{48} \times \dots \times 50^1 ?$$

(A) 262

(B) 261

(C) 261

(D) 235

$$\text{Total} = \begin{array}{r} 156 \\ 106 \\ \hline 262 \end{array}$$

$$1^{50} \times 2^{49} \times 3^{48} \times 4^{47} \times 5^{46} \times 6^{45} \times 7^{44} \times 8^{43} \times 9^{42} \times 10^{41}$$

$$15^{36} = 36$$

$$(5^2)^{26} - 25^{26} = 52 \quad 2$$

$$15^{18} = 16$$

$$5^6 = 6$$

$$\begin{array}{r} 110 \\ 46 \\ \hline 156 \end{array} \checkmark$$

$$20^{31} = 31$$

$$30^{21} = 21$$

$$40^{11} = 11$$

$$50^1 = 2$$

$$\begin{array}{r} 100 \\ 6 \\ \hline 106 \end{array}$$

$$= 31$$

$$= 21$$

$$= 11$$

$$= 2$$

$$\begin{array}{r} 100 \\ 6 \\ \hline 106 \end{array}$$

$$\begin{array}{r} 100 \\ 6 \\ \hline 106 \end{array}$$



Q7 What are the number of zeroes in $15!$.

(A) 6

(B) 2

(C) 4

(D) 3

$$\frac{15}{5} = \textcircled{3} //$$

Q8 Find the total number of factors of

$$7^{23} + 7^{22} + 7^{21} + 7^{20}$$

(A) 160

(B) 315

(C) 325

(D) 120

$$7^{20} \{ 7^3 + 7^2 + 7^1 + 1 \}$$

$$= 7^{20} [\cancel{3} \times \cancel{3} + \cancel{4} \times \cancel{4} + \cancel{7} + 1]$$

350 400

$$= 7^{20} \times 2^2 \times 5^2 \times 2^2$$

$$= 2^4 \times 5^2 \times 7^{20}$$

$$= 5 \times 3 \times 21$$

$$= 15 \times 21 \quad |$$

$$= \underline{315}$$



Q9 Find the number of factors and the product of all factors of 1224 ?

(A) 24, ~~(1223)~~12

~~(B) 23, (1224)~~12

(C) 24, (1224)12

(D) 24, ~~(1225)~~12

Product of factors
= (Number) ^{$\frac{n+1}{2}$}



Q10 Find the sum of the factors of 3240 $\Rightarrow 18 \times 18 \times 10$

(A) 10890

(B) 11000

$$= 2^2 \times 3^4 \times 2 \times 5$$

(C) 10800

(D) 10190

$$= 2^3 \times 3^4 \times 5^1$$

$$= [2^0 + 2^1 + 2^2 + 2^3] [3^0 + 3^1 + 3^2 + 3^3 + 3^4] [5^0 + 5^1]$$

$$= 15 \times 121 \times 6$$

$$= 90 \times 121$$

$$= \underline{10890}$$



DPP-03

Q1 $19^5 + 21^5$ is divisible by ?

(A) 10 only

(B) 20 only

(C) Both 10 and 20

(D) Neither 10 nor 20

40

$$\underline{\underline{a^n + b^n}}$$

$n = \text{odd}$
Number

always
divisible by $(a+b)$



Q2 Let $p = 2^{2n+2} + m$ and $q = 2^{4n} - m$ (where n is even natural number).

$n = \text{even}$
Natural m

What should be the least value of m such that p as well as q is divisible by 5 ?

- (A) -1
- (B) 1
- (C) 4
- (D) 6

$n=2$

$$p = 2^{2n+2} + m = 2^6 + m$$

$$q = 2^{4n} - m = 2^8 - 1$$

$2 \times 2 \times 2 \times 2 \times 2 \times 2 = 64 \times 2$
 $128 \times 2 =$

$$= 64 + m = 64 + 1 = 65 \quad m=1$$
$$= 256 - m = 256 - 1 = 255$$



Q3 If the number $953XY0$ is divisible by both 3 and 11, then in the hundredth and tenth places, the non-zero digits are, respectively ?

3, 11

~~(A) 1, 4~~

~~(B) 7, 3~~

(C) 3, 7

~~(D) 4, 1~~

953730

953XY0

953370

$$19 - 8 = 11$$

Q4 The difference between the squares of two consecutive odd integers is always divisible by

(A) 3

(B) 7

(C) 8

(D) 16

$$3^2 - 1^2$$

$$= 9 - 1 = 8$$

$$5^2 - 3^2 = 8 \times 2 = 16$$

$$17^2 - 15^2 = 32 \times$$



Q5 What is the remainder obtained when

$1421^{+5} \times 1423^{+7} \times 1425^{+9}$ is divided by 12 ?

(A) 1

(B) 2

(C) 3

(D) 4

$$\begin{array}{r} 118 \\ 12 \overline{) 1421} \\ \underline{12} \\ 22 \\ \underline{12} \\ 101 \\ \underline{96} \\ 5 \end{array}$$

$$= \frac{5 \times 7 \times 9}{12}$$

$$= \frac{35 \times 9}{12} = \frac{-9}{12} = \frac{12-9}{12} \Rightarrow \text{Remainder } 3$$



Q6 The divisor is 25 times the quotient and 5 times the remainder. If the quotient is 16, the dividend is?

- (A) 6400
- (C) 400

(B) 6480

(D) 480

Handwritten solution:

$25 \times 16 = D$
 100×4
 400

$= 400 \times 16 + 80$
 $= 6400 + 80$
 $= 6480$
✓

Diagram showing the relationship between Div, Q, and R:

Div is 25 times Q and 5 times R.

$Q = 16$

$R = 80$

$25 \times 16 = 400$

$5 \times 80 = 400$

✓

Q7 What is the remainder when 4^{1000} is divided by 7?

(A) 1

(B) 2

(C) 4

(D) 5

(8) ↓ (6)

$$= \frac{4 \times (2^3)^{666}}{7}$$

$$= \frac{4 \times (8)^{666}}{7}$$

$$= \frac{4 \times (1)^{666}}{7} = \frac{4}{7} \text{ Remainder}$$

$$= \frac{4^{1000}}{7} = (2^2)^{1000} = \frac{2^2}{7}$$

$$= \frac{2^{2000}}{7} = \frac{2^2 \times 2^{1998}}{7}$$



Q8 When a number is divided by 13, the remainder is 11. When the same number is divided by 17, then remainder is 9. What is the number ?

~~(A) 339~~

(C) 369

(B) 349

~~(D) 379~~

$$N = 13x + 11$$

$$N = 17y + 9 = 119 + 9 = 128$$

Quotient

Option =

$$\begin{array}{r} 26 \\ 13 \overline{) 339} \\ \underline{26} \\ 79 \\ \underline{78} \\ 1 \end{array}$$
$$\begin{array}{r} 26 \\ 13 \overline{) 349} \\ \underline{26} \\ 89 \\ \underline{78} \\ 11 \end{array}$$

$$\begin{array}{r} 20 \\ 17 \overline{) 349} \\ \underline{340} \\ 9 \end{array}$$

$$\begin{array}{r} 29 \\ 13 \overline{) 379} \\ \underline{26} \\ 119 \\ \underline{117} \\ 2 \end{array}$$

Q9

Find the remainder of $\frac{(29^{33} + 33^{33})}{31}$?

(A) 17

(B) 1

(C) 0

(D) 5

0
↓
Remainder

Q10 The sum of odd numbers between 20 to 40
when divided by 18 leaves a remainder of ?

(A) 10

(B) 16

(C) 15

(D) 12

$$\text{Sum} = \frac{30}{2} \times 10$$

$$= 150$$

$$\begin{array}{r} 16 \\ 18 \overline{) 300} \\ \underline{18} \\ 120 \\ \underline{108} \\ 12 \end{array}$$

12 - Remainder

$$T.N = \frac{39-21+1}{2}$$

$$= \frac{18+1}{2} = 10$$

Total Num = 10

39

21, 23

DPP-04



LCM & HCF

Q1 Find two natural numbers whose sum is **171** and whose least common multiple is **266**

(A) 133, 38

~~(B) 95, 76~~

$$\begin{array}{r} 95 \\ + 76 \\ \hline 171 \end{array}$$

~~(C) 152, 19~~

~~(D) 114, 57~~

$$\begin{array}{l} \wedge \\ 19 \times 6 \qquad 19 \times 5 \times 4 \\ 19 \times 3 \qquad 95 \times 4 \\ \qquad \qquad \underline{\underline{0}} \end{array}$$

$$19 \times 7 \times 2 = 133 \times 2$$

$$\underline{266}$$

$$\begin{array}{r} 152 \times 19 \\ \hline 19 \times 8 \end{array}$$

$$\begin{array}{r} 19 \times 6 \\ \hline = 114 \end{array}$$

Q2 A boy was asked to find $\frac{3}{5}$ of a fraction. Instead, he divided the fraction by $\frac{3}{5}$ and got an answer which exceeded the correct answer by $\frac{32}{75}$. The correct answer is?

(A) $\frac{3}{25}$

(B) $\frac{6}{25}$

(C) $\frac{2}{25}$

(D) $\frac{2}{15}$

$$x = \frac{3}{5}x = \frac{3}{5} \times \frac{2}{5}$$

$$= \frac{6}{25}$$

$$\frac{3x}{5} \quad \frac{x}{5/3} = \frac{5}{3}x$$

$$\frac{5x}{3} - \frac{3}{5}x = \frac{32}{75}$$

$$\frac{25x - 9x}{15} = \frac{32}{75 \cdot 5}$$

$$16x = \frac{32 \cdot 2}{5}$$

$$x = \frac{2}{5}$$

Q3 The sum of a two digit number and the number obtained by interchanging its digits is **165**. If the difference between the digits is **3**, then what is the product of the digits?

- (A) 54
(C) 30

- (B) 15
(D) 44

$$xy$$

$$= 9 \times 6 = \underline{\underline{54}}$$

$$10x + y \quad) \quad 165$$

$$10y + x$$

$$x(x+y) = \frac{165}{15}$$

$$x+y=15$$

$$x-y=3$$

$$\hline x=9 \quad y=6$$

Q4 What is the HCF of $a^2b^4 + 2a^2b^2$ and $(ab)^7 - 4a^2b^9$?

$$a^2b^2[b^2+2]$$

(A) ab

(C) a^2b^2

$$\underline{\underline{a^2b^2}}$$

(B) a^2b^3

(D) a^3b^2

Q5 If 1 is added to both the numerator and the denominator of a fraction, it becomes $\frac{1}{4}$. If 2 is added to both numerator and denominator of that fraction, it become $\frac{1}{3}$. The sum of numerator and denominator of the fraction is?

(A) 8

(B) 13

(C) 22

(D) 27

$$\begin{aligned}x + y &= 1 + 7 \\ &= 8\end{aligned}$$

$$\frac{x+1}{y+1} = \frac{1}{4}$$

$$\begin{aligned}4x + 4 &= y + 1 \\ 4x - y &= -3\end{aligned}$$

$$\frac{x+2}{y+2} = \frac{1}{3}$$

$$\begin{aligned}4 - y &= -3 \\ -y &= -3 - 4 \\ +y &= -7 \\ y &= 7\end{aligned}$$

$$3x + 6 = y + 2$$

$$3x - y = -4$$

$$\begin{array}{r}4x - y = -3 \\ - \quad + \quad + \\ \hline +x = -1\end{array}$$

$$x = 1$$

Q6 Consider the following statements:

1. $x + 3$ is the factor of $\{x^3 + 2x^2 + 3x + 8\}$
 2. $x - 2$ is the factor of $x^3 + 2x^2 + 3x + 8$

Which of the statements given above is/are correct?

- (A) 1 only
 (B) 2 only
 (C) Both 1 and 2
 (D) Neither 1 nor 2

$$x + 3 = 0$$

$$x = -3$$

$$= (-3)^3 + 2(-3)^2 + 3(-3) + 8$$

$$= -27 + 18 - 9 + 8$$

$$= -27 + 9 + 8$$

$$= -27 + 17 = -10$$

$$x - 2 = 0$$

$$x = 2$$

Q7 How many factors of $2^5 \times 3^6$ are perfect squares?

(A) 9

(B) 12

(C) 18

(D) 4

$$\underline{\underline{(2^2)^2 \times 2}} \quad \underline{\underline{(3^2)^3}}$$

$$= (2+1) \times (3+1)$$

$$= 3 \times 4$$

$$\underline{\underline{= 12}}$$



Q8 The sum of five consecutive odd numbers is equal to 175. What is the sum of the second largest number and the square of the smallest number among them together ?

$$\frac{175}{5} = 35$$

- (A) 989
- (C) 979

(B) 998

(D) 995

31
—
↓

33
—

↓
35
—

37
—

39
—

37

$$\begin{array}{r} 961 \\ + 37 \\ \hline 998 \end{array}$$



Q9 The difference between two numbers is 18. If four times the second number is less than three times the first number by 18, then what is the sum of these two numbers ?

(A) 100

(B) 80

(C) 86

(D) 90

$$x - y = 18$$

$$4y = 3x - 18$$

$$= \begin{array}{r} 1 \\ 54 \\ 36 \\ \hline 90 \\ // \end{array}$$

$$\begin{array}{r} 4x - 4y = 72 \\ 3x - 4y = 18 \\ \hline -x = 54 \end{array}$$

$$x = 54$$

$$x = 54$$

$$\begin{array}{r} y = 54 \\ 18 \\ \hline y = 36 \end{array}$$



Q10 In a three-digit number, the digit in the unit's place is four times the digit in the hundreds place. If the digit in the unit's place and the ten's places are interchanged, the new number so formed is 18 more than the original number. If the digit in the hundred's place is one third of the digit in the ten's place, then what is 25% of the original number ?

$$x \times \frac{1}{4} = 67$$
$$x = 268$$

(A) 67

(B) 84

(C) 137

(D) 124

$$\begin{array}{r} \times 4 \\ 268 \\ \hline 1072 \end{array}$$

$$\begin{array}{r} 2816 \\ 268 \\ \hline 18 \end{array}$$



DPP-05

Q1 Rs.720 was divided among A, B, C, D, E . The sum received by them was in ascending order and in arithmetic progression. E received Rs.40 more than A . How much did B receive?

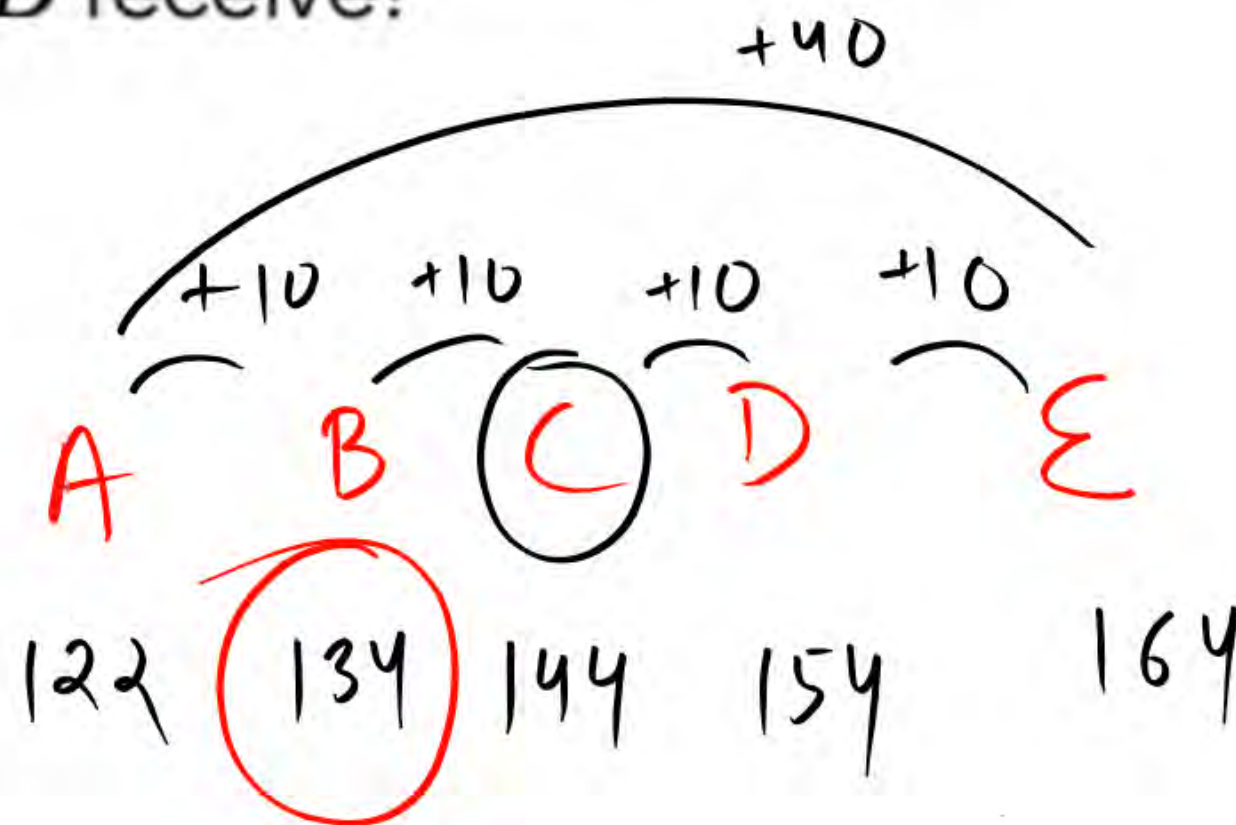
$$\frac{720}{5} = 144$$

(A) Rs.134

(B) Rs.154

(C) Rs.144

(D) Rs.124



Q2 The sum of all natural numbers from 75 to 97 is?

(A) 1598

(B) 1798

(C) 1958

(D) 1978

$$\begin{array}{r} 1 \\ 75 \\ 97 \\ \hline 172 \\ \times 2 \end{array}$$

$$86 \times 23$$

$$\underline{1978}$$

$$\begin{array}{r} 97 \\ 75 \\ \hline 22 + 1 \end{array}$$

$$= 23$$

$$\begin{array}{r} 1 \\ 3 \\ \hline \end{array}$$

Q3 The sum of first 45 natural number is ?

(A) 1035

(B) 1280

(C) 2070

(D) 2140

$$\begin{aligned}
 &= \frac{(1+45) \times 45}{2} \\
 &= \frac{46 \times 45}{2} \\
 &= 23 \times 45 \\
 &= 1035
 \end{aligned}$$

Q4 Consider all positive two-digit numbers each of which when divided by 7 leaves a remainder 3. What is their sum?

(A) 661

(B) 666

(C) 676

(D) 777

$$7 \times 1 + 3 = \underline{10} \quad \text{First term}$$

$$7 \times \textcircled{13} + 3 = 94 \quad \text{Last}$$

$$= \frac{(10+94)}{2} \times 13$$

$$= 52 \times 13$$

$$= \underline{\underline{676}}$$

Q5 The sum of five consecutive odd numbers is equal to 175. What is the sum of the second largest number and the square of the smallest number among them together ?

(A) 989

(B) 998

(C) 979

(D) 995

$$\begin{array}{r} 961 \\ 37 \\ \hline 998 \end{array}$$

Q6 There are two examination halls P and Q. If 10 students shifted P to Q, then the number of students will be equal in both the examination halls. If 20 students shifted from Q to P, then the students of P would be doubled to the students of Q. The number of students would be in P and Q respectively are ?

~~(A) 60, 40~~

(B) 70, 50

(C) 80, 60

(D) 100, 80

80
 $80 - 20 = 60$
 $x - 80 = 20$
 $x = 100$

(D) 100, 80
 $-10 \quad +10$
 $x - 2y = -60$
 $x - y = 20$
 $+y = -180$
 $y = 80$

P Q
 $x - 10 = y + 10$

$x - y = 20$

P Q
 $(x + 20) = 2(y - 20)$
 $x + 20 = 2y - 40$
 $x - 2y = -60$



Q7 What is the sum of all 3 digit numbers that leave a remainder of 2 when divided by 3?

(A) 897

(B) 164,850

(C) 164,749

(D) 149,700

$$\begin{array}{r} 33 \\ 3 \overline{) 100} \\ \underline{99} \\ 1 \end{array}$$

$$101 = 3 \times 33 + 2 = 101$$

104) +3

Number of term = 30

$$= \frac{101}{998} \times 30 = \frac{101}{998} \times 30 = 164850$$

$$\begin{array}{r} 998 \\ 101 \\ 299 \overline{) 897} \\ \underline{3} \end{array} + 1$$

$$= 30$$

$$3 \times 332 + 2 = 998$$

$$\begin{array}{r} 332 \\ 3 \overline{) 998} \\ \underline{1} \end{array}$$

$$(332 - 33) + 1$$

No. of terms

Q8 In a two digit positive number the unit digit is equal to the square of ten's place digit. The difference between the original number and the number formed by interchanging the digit is 54.

What of 40% of the original number?

~~(A) 14.8~~

$$x \times \frac{2}{5} = \frac{14.8}{7.4}$$

~~(B) 16.5~~

$$x \times \frac{2}{5} = \frac{16.5}{8.25}$$

(C) 15.6

$$x = \frac{37.0}{2}$$

(D) 17.8

$$40\% = \frac{2}{5}$$

$$x \times \frac{2}{5} = \frac{7.8}{15.6}$$

$$x = 7.8 \times 5$$

$$x = \frac{39.0}{2}$$

$$= \frac{39}{2} = 19.5$$



Q9 Obtain the sum of all positive integers up to 1000, which are divisible by 5 and not divisible by 2.

(A) 10050

(B) 5050

(C) 5000

(D) 50000

5, 15, 25, ... 995
10

$$\begin{aligned} \text{Total terms} &= 100 \\ &= \frac{1000}{10} \times 10 \\ &= 5000 \end{aligned}$$

$$\begin{aligned} &995 \\ &\quad 5 \\ \hline &990 + 1 \\ &\quad 10 \\ &99 + 1 = 100 \end{aligned}$$



Q10 There are 200 question in a 3 hour examination. Among 200 question, 50 are Mathematics, 100 are from GK and 50 are from Sciences. Ram spent twice as much time on each Mathematics question for each other question. How many minute did he spend on Mathematics questions?

- (A) 36
- (C) 100

(B) 72

(D) 60

Question = 3w

Math	GK	Sci
50	100	50
1	2	1

T = 2 : 1 : 1

2 : 2 : 1 = 5 = 3x66 / 12

1 = 36 min

2 x 36 = 72 min



Homework



Pahai likhai karte rho



JAI HIND