



RR CAMPUS



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 [For :- CSAT, SSC, IBPS (PO & Clerk), RLYS, & Others Competitive Exam]

$$1) \left(1 - \frac{1}{4}\right) + \left(\frac{1}{4} - \frac{1}{9}\right) + \left(\frac{1}{9} - \frac{1}{16}\right) + \dots + \left(\frac{1}{100} - \frac{1}{121}\right)$$

$$\Rightarrow \left(1 - \frac{1}{121}\right) \Rightarrow \left(\frac{121-1}{121}\right)$$

$$= \frac{120}{121} \quad (D)$$

2) Given \rightarrow

$$P * Q = P \times Q + (P - Q)$$

Accordingly +

$$6 * 5 = 6 \times 5 + (6 - 5) \\ = 30 + 1 \Rightarrow 31 \quad (A)$$

$$3) 1939 + 3971 - x = 2957$$

$$\Rightarrow 5910 - x = 2957$$

$$-x = 2957 - 5910$$

$$+x = -2953$$

$$x = 2953 \quad (B)$$

$$4) \text{ Given } \rightarrow A = 0.1\overline{6666} \dots$$

$$A = 0.1\overline{6}$$

$$B = 0.1111 \dots$$

$$B = 0.\overline{1}$$

$$\Rightarrow A = 0.1\overline{6} \Rightarrow \frac{16-1}{90} = \frac{15}{90} = \frac{1}{6}$$

$$B = 0.\overline{1} = \frac{1}{9}$$

$$\therefore \frac{1}{A} + \frac{1}{B} = \frac{1}{\frac{1}{6}} + \frac{1}{\frac{1}{9}} = 6 + 9 \\ \Rightarrow 15 \quad (B)$$

5) Given \rightarrow

$$+ 10\frac{1}{2} + 20\frac{1}{6} + 30\frac{1}{12} + \dots + \text{upto 20 terms}$$

$$\Rightarrow (10 + 20 + 30 + \dots + \text{upto 20 terms})$$

$$+ \left(\frac{1}{2} + \frac{1}{6} + \frac{1}{12} + \dots + \text{upto 20 terms}\right)$$

$$\Rightarrow S_n = \frac{n}{2} [2a + (n-1)d]$$

$$= \frac{20}{2} [2 \times 10 + (20-1)10]$$

$$= 10 [20 + 190]$$

$$\Rightarrow 10 \times 210 = \boxed{2100}$$

Now, $\frac{1}{2} + \frac{1}{6} + \frac{1}{12} + \dots + \text{upto 20 terms}$

$$\Rightarrow \frac{1}{1 \times 2} + \frac{1}{2 \times 3} + \frac{1}{3 \times 4} + \frac{1}{4 \times 5} + \dots + \frac{1}{20 \times 21}$$

$$\Rightarrow \frac{1}{1} - \frac{1}{21} \Rightarrow \frac{21-1}{21} = \frac{20}{21}$$

$$\Rightarrow \frac{2100 + 20}{1} \Rightarrow \frac{44100 + 20}{21}$$

$$\Rightarrow \frac{44120}{21} \quad (A)$$

7) Given $\rightarrow A = 0.\overline{abcabc} \dots$

$$A \Rightarrow 0.\overline{abc} \Rightarrow A = \frac{abc}{999}$$

So, we multiply A by 999 to make it integer. (D)

$$8 \rightarrow \frac{0.\overset{11}{4}21 \times 0.\overset{8}{6}4 \times 0.\overset{4}{4}21 \times 1000000}{0.\overset{4}{4} \times 0.\overset{8}{6}8 \times 4.\overset{21}{21} \times 100000000}$$

$$\Rightarrow \frac{.88}{100} \Rightarrow 0.88 \text{ (D)}$$

9.

$$+ \frac{3}{1 \times 2 \times 3 \times 4} + \frac{3}{2 \times 3 \times 4 \times 5} + \dots + \frac{3}{9 \times 10 \times 11 \times 12}$$

$$\Rightarrow \frac{1}{1 \times 2 \times 3} - \frac{1}{10 \times 11 \times 12}$$

$$= \frac{1}{6} - \frac{1}{110 \times 12} \Rightarrow \frac{1}{6} - \frac{1}{220}$$

$$\Rightarrow \frac{220 - 1}{110 \times 12}$$

$$\Rightarrow \frac{219 - 73}{110 \times 12} = 4$$

$$\Rightarrow \frac{73}{440} \text{ Ans (C)}$$

$$10 \rightarrow 7 + 12 + 17 + 22 + \dots \text{ upto 20 terms}$$

$$\Rightarrow S_n = \frac{n}{2} [2a + (n-1)d]$$

$$= \frac{20}{2} [2 \times 7 + (20-1) \times 5]$$

$$= 10 [14 + 95]$$

$$= 10 \times 109 \Rightarrow 1090 \text{ (B)}$$

$$6 \rightarrow 0.\overline{xyz} = \frac{23}{66}$$

$$\Rightarrow \frac{xyz - x}{990} = \frac{23}{66}$$

$$xyz - x = \frac{15}{990 \times 23} = \frac{15}{22}$$

$$xyz - x = 345$$

$$\text{Q } x=9, y=4 \text{ \& } z=8$$

$$\therefore x+y+z = 15 \text{ Ans (C)}$$

11) $\frac{xy-x}{90} + \frac{y1-y}{90} = \frac{1}{3}$

$\frac{10x+y-x}{90} + \frac{10y+x-y}{90} = \frac{1}{3}$

$\Rightarrow \frac{10x+y-x+10y+x-y}{90} = \frac{1}{3}$

$\Rightarrow \frac{10(x+y)}{90} = \frac{1}{3}$

$\Rightarrow x+y = \frac{9}{3} = 3$ Ans (A)

2nd method

12) यदि इस प्रकार का Question दिया है तो नीचे हम Denominators को 9 बनाते हैं तब Numerator का मान ही Answer (x+y) होता है।

\therefore दिया है, $0.7\bar{7} + 0.7\bar{7} = \frac{1}{3}$

$\Rightarrow \frac{1}{3} \times \frac{3}{3} = \frac{3}{9}$ (A)

$\therefore x+y = 3$ Ans

12) $(5+3-7+4) \times (\frac{1}{6} + \frac{1}{4} - \frac{1}{2} + \frac{2}{3})$
 $= 5 + (\frac{2+3-6+8}{12})$
 $= 5 + \frac{7}{12} = 5\frac{7}{12}$ Ans (d)

13) इस प्रकार के Question को हम नीचे से solve करते हैं।

$5 - \frac{5}{1 + \frac{1}{3 + \frac{1}{4}}} = 5 - \frac{5}{1 + \frac{4}{13}}$

$= 5 - \frac{5 \times 13}{17} = \frac{20}{17} = 1\frac{3}{17}$ (b) Ans

14) $545 \times 111 = 60495$ Ans (d)

15) $0.999\dots = 0.\bar{9} = \frac{9}{9} = 1$ Ans (A)

16) $999 \frac{294}{297} \times 99$

$99000 - \frac{3}{297} \times 99 = 99000 - 1$
 $= 98999$ (A) Ans

17) $3.5 - \frac{1}{3\frac{25}{100} \times \frac{0.9375}{0.7}}$

$= 3.5 - \frac{0.75}{0.9375}$

$= \frac{2.53125}{0.9375} = 2.7$ (B) Ans

18) हम अंशों के वाक्य वाले को $\frac{1}{p}$ के रूप में लिखते हैं एवं जोड़ते हैं।

then, $\frac{29}{29} \rightarrow 2$

$\frac{29}{21} \rightarrow 1$, (\because दोड़ना है।)

$\frac{21}{4} \rightarrow 5$

$\therefore x = 2, y = 1 \text{ \& } z = 5$

Now $2x+3y-z = 2 \times 2 + 3 \times 1 - 5 = 2$ (A) Ans

19) $5 - \frac{1}{1 + \frac{1}{3 + \frac{6}{13}}}$

$= 5 - \frac{1}{1 + \frac{13}{45}}$

$= 5 - \frac{45}{58} = 4\frac{13}{58}$ (b) Ans

20) अंश हर में $1 \times 2, 2 \times 3, 3 \times 4, \dots$ का series दिया है तथा इसका diff. कपल है तो हम Answer के लिए 1st - last का फेरो है।

$\therefore \frac{1}{1} - \frac{1}{27} = \frac{26}{27}$ Ans ($\because z = \frac{1}{20 \times 27}$) (B)

21) (a) $\frac{3.23}{32.3 \times 0.1} = \frac{323}{323 \times 1} = 1$ (b)
Ans

22) माना $0.1 = x$ & $0.01 = y$
 $\Rightarrow \frac{x^3 + y^3}{(2x)^3 + (2y)^3} = \frac{x^3 + y^3}{8(x^3 + y^3)} = \frac{1}{8}$
Ans (c)
 $= 0.125$

23) $\frac{1}{0.08} = \frac{100}{8} = \frac{25}{2} = 12 \frac{1}{2}$ (A)
Ans

24) $\frac{1}{3.178} = 0.2689$

25) $\frac{1}{0.3178} = 2.889$ (C)
Ans

26) $102.01 \div 10.1 = 10.1$

$10201 \div 101 = 101$ (C)
Ans

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