(1) $\frac{10}{0.05} = \frac{10 \times 100}{5}$

$= \frac{1000}{5} = 200$ (B)

(2) $(666)^2 = 443556$ (B)

(3) $0.008 \times 0.01 \times 0.072 \div (0.12 \times 0.0004)$

$= \frac{8}{1000} \times \frac{1}{100} \times \frac{72}{1000} \div \left(\frac{12}{100} \times \frac{4}{10000}\right)$

$= \frac{\cancel{8}^{2}}{\cancel{1000}} \times \frac{1}{\cancel{100}} \times \frac{\cancel{72}^{6}}{\cancel{1000}} \times \frac{\cancel{100}}{\cancel{12}} \times \frac{\cancel{10000}}{\cancel{4}}$

$= \frac{12}{100} = 0.12.$ (B)

(4) $0.4096 \div 0.16$

$= \frac{4096}{10000} \div \frac{\cancel{04}\ 16}{100}$

$= \frac{\overset{256}{\cancel{4096}}}{\cancel{10000}} \times \frac{\cancel{100}}{\cancel{16}} = \frac{256}{100} = 2.56$ (C)

(5) 0.025×101

$= \frac{25 \times 101}{1000} = \frac{2525}{1000} = 2.525$ (C)

(6) $\frac{50}{0.2} \div \frac{0.5}{5} \times \frac{1}{100}$

$= \frac{50}{0.2} \times \frac{5}{0.5} \times \frac{1}{100}$

$= \frac{\cancel{50}^{25}}{\cancel{2}} \times \frac{1}{100} \times \frac{\cancel{5}}{\cancel{5}} \times 100 = 25$ (D)

(7) $\frac{0.2\times0.2\times0.2 + 0.04\times0.04\times0.04}{0.4\times0.4\times0.4 + 0.08\times0.08\times0.08}\times100$

$= \frac{0.2+0.04}{0.4+0.08}\times100$

$= \frac{0.24}{0.48}\times100 = \frac{100}{2} = 50$ (D)

(8) $\frac{4.41\times0.16\times S^5}{2.1\times1.6\times0.21\times S^5}$

$= \frac{\frac{441}{100}\times\frac{0.16}{100}\times S^5}{\frac{21}{10}\times\frac{16}{10}\times\frac{21}{100}\times S^5}$

$= \frac{441\times16\times S^5}{21\times16\times21\times S^5}\times\frac{10000}{10000} = 1$ (B)

(9) $\frac{[3.25\times3.20 - 3.20\times3.05]\times300}{0.064\times1000}$

$= \frac{[10.4 - 9.76]\times300}{0.064\times1000}$

$= \frac{0.64\times3}{0.064\times10} = \frac{64\times3\times1000}{64\times10\times100} = 3$ (B)

(10) $\frac{(0.055)^2+(0.007)^2+(0.027)^2}{(0.055)^2+(0.007)^2+(0.027)^2}$

$= \frac{(0.089)^2}{(0.089)^2} = 1$

(11) $\frac{1}{0.05^2} = \frac{100}{5^2} = 20$ (C)

(12) $(6.5^2 \div 0.005^2)$

$= 6.5^2 \times \frac{1}{0.005^2}$

$= \frac{65}{10}\times\frac{1000}{5^2} = 1300$ (A)

(13) $\left(1-\frac{1}{3}\right)\left(1-\frac{1}{4}\right)\left(1-\frac{1}{5}\right)\cdots\left(1-\frac{1}{n}\right)$

$\frac{2}{3}\times\frac{3}{4}\times\frac{4}{5}\cdots\cdots/\frac{n}{n}$

$\Rightarrow \frac{2}{n}$ Ans

(14) $\left(2-\frac{10}{7}\right)\left(3-\frac{23}{10}\right)\left(1-\frac{3}{13}\right)\left(1-\frac{3}{16}\right)$

$\frac{4}{7}\times\frac{7}{10}\times\frac{10}{13}\times\frac{13}{16}$

$\frac{4}{16} \Rightarrow \frac{1}{4}$ Ans

(15) $\frac{3}{1^2\times2^2}+\frac{5}{2^2\times3^2}+\frac{7}{3^2\times4^2}+\frac{9}{4^2\times5^2}$

$\frac{11}{5^2\times6^2}+\frac{13}{6^2\times7^2}+\frac{15}{7^2\times8^2}+\frac{17}{8^2\times9^2}$

$+\frac{19}{9^2\times10^2}+\frac{21}{10^2\times11^2}=?$

1

(16) $\frac{1}{80}+\frac{1}{42}+\frac{1}{56}+\frac{1}{72}+\frac{1}{90}+\frac{1}{110}+\frac{1}{132}=?$

$\frac{1}{5\times8}+\frac{1}{6\times7}+\frac{1}{7\times8}+\frac{1}{8\times9}+\frac{1}{9\times10}+\frac{1}{11\times12}$

$\frac{1}{5}-\frac{1}{12}$

$\frac{12-5}{60} \Rightarrow \frac{7}{12}$ Ans

(17) $\frac{1}{20}+\frac{1}{30}+\frac{1}{42}+\frac{1}{56}+\frac{1}{72}+\frac{1}{90}+\frac{1}{110}$

$\frac{1}{4\times5}+\frac{1}{5\times6}+\frac{1}{6\times7}+\frac{1}{7\times8}+\frac{1}{8\times9}+\frac{1}{9\times10}+\frac{1}{10\times11}$

$\frac{1}{4}-\frac{1}{11}$ $\frac{11-4}{44} \Rightarrow \frac{7}{44}$ Ans

(18) 51 से 100 तक के सभी प्राकृतिक सं० का योगफल ज्ञात करें

$51+52+53\cdots\cdots+100$

$\frac{(F-L)n}{2} \Rightarrow \frac{51+100}{2}\times50^{25}$

$\Rightarrow 151\times25$

$\Rightarrow 3775$ Ans $\Rightarrow$

(19) 3 अंकों की सभी संख्याओं का योग ज्ञात करें

$100+101+\cdots\cdots+999$

$\frac{(F+L)n}{2} \Rightarrow \frac{999+100}{2}\times900^{450}$

1099×450

494550 Ans

(20) 7 + 14 + 21 ..... upto 20 terms

$\frac{F+L}{2} n \Rightarrow \frac{140+7}{2} \times 20^{10}$

147×10

$\Rightarrow 1470$

(21) संख्याओं a तथा b के लिए जहाँ $a \neq 5$, निम्न प्रकार से परिभाषित है

$a * b = (a+b) \div (a-b)$ तब $(2*3)*1$ का मान

$a * b = \frac{a+b}{a-b} = \frac{2+3}{2-3} \Rightarrow \frac{5}{-1} \Rightarrow -5$

Now $\Rightarrow$ $\underset{-5}{a} * \underset{4}{b} \Rightarrow \frac{a+b}{a-b} = \frac{-5+4}{-5-4}$

$\Rightarrow \frac{-1}{-9} \Rightarrow \frac{1}{9}$ Ans

(22)

(23) यदि if $5 = x + \cfrac{1}{1 + \cfrac{1}{3\frac{1}{4}}}$ then the value of 'x' is.

$\frac{3+\frac{1}{4}}{1+\frac{1}{12+1}} \Rightarrow \frac{13}{4}$

$\frac{1}{1} + \frac{4}{13}$

$\frac{13+4}{13} \Rightarrow \frac{17}{13}$

$\Rightarrow x = 5 - \frac{13}{17}$

$\therefore x = \frac{72}{17}$ Ans

(24) माना कि A; B और C प्रकृति संख्या इस प्रकार कि $\frac{24}{5} = A + \cfrac{1}{1 + \cfrac{1}{B + \cfrac{1}{C+2}}}$ तो A+B−C का मान

$\frac{24}{5} \Rightarrow$ शेष = A = 4

(21) $8 + 7 \cdot 9 - \{2 \cdot 1 - 6 \cdot 3 - (2 \cdot 1 + 0 \cdot 9) + 15 \cdot 2\}$

$8 + 7 \cdot 9 - \{2 \cdot 1 - 6 \cdot 3 - (3) + 15 \cdot 2\}$

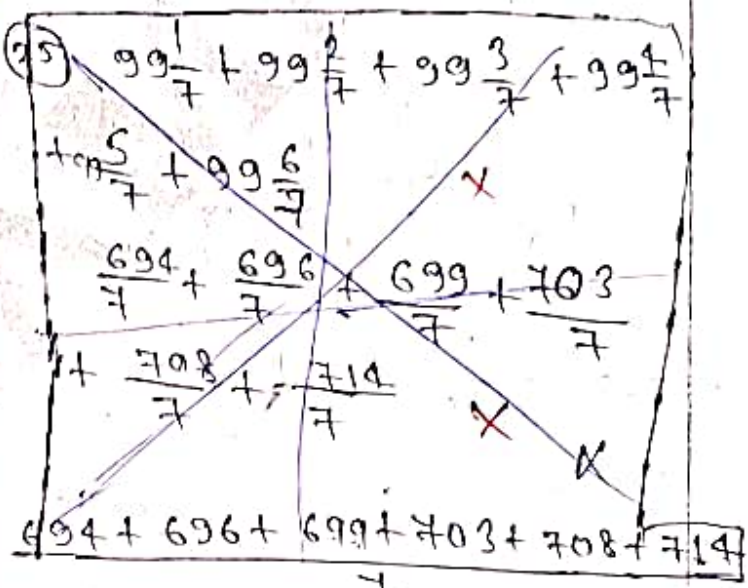
$8 + 7 \cdot 9 - \{2 \cdot 1 - 6 \cdot 3 - 18 \cdot 2\}$

$8 + 7 \cdot 9 - \{-22 \cdot 4\}$

$8 + 7 \cdot 9 + 22 \cdot 4$

38.3 Ans

(25)



(26) $99\frac{1}{7} + 99\frac{2}{7} + 99\frac{3}{7} + 99\frac{4}{7} + 99\frac{5}{7} + 99\frac{6}{7}$

$\frac{694}{7} + \frac{695}{7} + \frac{696}{7} + \frac{697}{7} + \frac{698}{7} + \frac{699}{7}$

$\frac{694 + 695 + 696 + 697 + 698 + 699}{7}$

$\frac{4179}{7} \Rightarrow 597$ Ans