



# RR CAMPUS

[ 3<sup>rd</sup> Floor, Gulab Place, Machhuatoli, Patna - 04 | 📞 :8207725522 📱 :8002169064 ]

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

## SOLUTION

## TEST NO.-2

## PIPE & CISTERN

01. 24 m 75 cm & 9 m 45 cm

2475 cm & 945 cm

HCF of 2475 & 945 = 45

∴ 2475 × 945

$\frac{45(55 \times 21)}{\downarrow}$

Number of tile

∴ Number of tile = 55 × 21 = 1155

02. 3(A - 3) = B + 3

3A - 9 = B + 3

3A - B = 12 ..... (i)

B - 2 = 2(A + 2)

B - 2 = 2A + 4

2A - B = -6 ..... (ii)

3A - B = 12

- 2A - B = -6

-----

A = 18

∴ B = 42

03. 3x : 4x

9x<sup>2</sup> + 16x<sup>2</sup> = 225

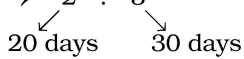
x<sup>2</sup> = 9

∴ x = 3

∴ sum = 7 ut = 21

04. E → 12 : 8

T → 2 : 3

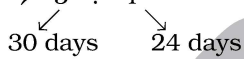


∴ 10 Extra days

05. S : K

E → 4 : 5

T → 5 : 4



06.  $\frac{2^2 + 2^2 + 22^2 + \dots + (222 \dots 49 \text{ times})^2}{9}$

$2^2 + 4^2 + 6^2 + \dots + 98^2$

$= 2^2 [1^2 + 2^2 + 3^2 + \dots + 49^2]$

$= 4 \times \frac{49 \times 50 \times 99}{6}$

$= 2 \times 49 \times 50 \times 33$

↓ ↓ ↓ ↓

2 × 4 × 5 × 6 → Digit sum

Digit sum = 6

∴ Remainder = 6

07. N = 0.369369369.....

$= 0.\overline{369} = \frac{369}{999} = \frac{41}{111}$

M = 0.531531.....

$= 0.\overline{531} = \frac{531}{999} = \frac{59}{111}$

∴  $\frac{1}{N} + \frac{1}{M} = \frac{111}{41} + \frac{111}{59} = \frac{111(41+59)}{41 \times 59} = \frac{111 \times 100}{2419} = \frac{11100}{2419}$

08. A + B : C

60 : 40

3 : 2 × 2

6 : 4

A : B : C

3 : 3 : 4

∴ C is most efficient.

B + C : A

70 : 30

7 : 3

09. A : B : C

C → 3 : 4 : 5

I → 20% : 15% : 10%

Now C → 3 × 120 : 4 × 115 : 5 × 110

36 : 46 : 55

10. N = 9<sup>9</sup> = 3<sup>18</sup> = (3<sup>3</sup>)<sup>6</sup>

∴ 3<sup>18</sup>, 3<sup>15</sup>, 3<sup>12</sup>, 3<sup>9</sup>, 3<sup>6</sup>, 3<sup>3</sup>, 1

∴ Total 7 number

11. C

12.  $\frac{p}{q} = \frac{r}{s} = \frac{t}{u} = \sqrt{5}$

∴  $\frac{p^2}{q^2} = \frac{r^2}{s^2} = \frac{t^2}{u^2} = 5$

$\frac{3p^2 + 4r^2 + 5t^2}{3q^2 + 4s^2 + 5u^2} = 5$

13. 2 times

14. M : S

9 : 2      11 ut = 44

∴ diff. = 7 ut = 28 yrs.

15. A : B

8000 : 10000

C → 4 : 5

P → 4 × 12 : 5 × 6 + 4 × 6

p → 48 : 54

P → 8 : 9

16.  $\frac{2}{3} \times \frac{1}{4} = \frac{1}{2}$

$\frac{2}{4} : \frac{1}{3}$

3 : 2

17.  $\left(1 - \frac{1}{4}\right)^3 = \left(\frac{3}{4}\right)^3 = \frac{27}{64}$

∴ D : W

27 : 37

18. 6 ← A + B + C → 4

2 ← A → 12

3 ← B → 8

1 ← C

(24)

∴ Time of C =  $\frac{24}{1} = 24$  days

19.  $2 \leftarrow S \rightarrow 15 \text{ d}$   
 $5 \leftarrow S + M \rightarrow 6 \text{ d}$   
 $3 \leftarrow M$   
 $S : M$   
 $E \rightarrow 2 : 3$   
 $W \rightarrow 2 : 3 \quad 5 \text{ ut} = 5000$   
 $\downarrow 1 \text{ ut} = 1000$   
 $3000$

(30)

20.  $M : W$   
 $3 : 5$   
 $27 \leftarrow \quad \rightarrow 45$   
 $\downarrow +x$   
 $1 : 2$   
 $27 \leftarrow \quad \rightarrow 54$   
 $8 \text{ ut} = 72$   
 $1 \text{ ut} = 9$

$\therefore x = 54 - 45 = 9 \text{ lit.}$

21.  $A \times 15\% = B \times 25\%$   
 $A : B$   
 $5 : 3$   
 $\therefore B : A = 3 : 5$

22. 0

23.  $2W + B = 70$   
 $W + B = 45$   
 $\hline$   
 $W = 25$   
 $\therefore B = 45 - 25 = 20 \text{ kg}$

24.  $9.22222$   
 $5.26464$   
 $6.01313$   
 $\hline$   
 $20.49999$

$\therefore 20.499 = 20.49$

25.  $13 \rightarrow 8 + 13 \rightarrow 21 \rightarrow 34$   
 $7 \rightarrow 6$   
 $\therefore \text{Required Number} = 34$

26. Least Number = 3005  
 Greatest Number = 3995  
 $\therefore \text{Diff.} = 3995 - 3005 = 990$

27.  $A : B \quad B : C$   
 $11 : 10 \quad 4 : 5$   
 $A : B : C$   
 $44 : 40 : 50$   
 $22 : 20 : 25$

28.  $11S \rightarrow 11W \rightarrow 11D$   
 $2S \rightarrow 2W \rightarrow ?$   
 $? = 11 \times \frac{11}{2} \times \frac{2}{11} = 11 \text{ days}$

29.  $A : B$   
 $2 : 3$   
 $\swarrow \quad \searrow$   
 $18 \quad 27 \text{ yr.}$

30.  $A + B + C = 6000$   
 $A = 1000$   
 $B + C = 5000$   
 $B : C$   
 $2 : 3$   
 $\swarrow \quad \searrow$   
 $2000 \quad 3000$   
 $\therefore A : B : C$   
 $C \rightarrow 1000 : 2000 : 3000$   
 $P \rightarrow 1 : 2 : 3$   
 $\downarrow$   
 $600$   
 $6 \text{ ut} = 1200$   
 $1 \text{ ut} = 200$

31.  $16 \quad 9$   
 $\swarrow \quad \searrow$   
 $13$   
 $\swarrow \quad \searrow$   
 $4 : 3$

32.  $160 \quad S : O \quad 240$   
 $\swarrow \quad \searrow$   
 $2 : 3$   
 $+x$   
 $\swarrow \quad \searrow$   
 $1 : 1$   
 $240 \quad 240$   
 $5 \text{ ut} = 400$   
 $1 \text{ ut} = 80$   
 $\therefore x = 240 - 160 = 80 \text{ kg}$

33. C

34.  $2 \leftarrow F \rightarrow 30 \text{ h}$   
 $3 \leftarrow F + S \rightarrow 20 \text{ h}$   
 $1 \leftarrow S$

(60)

$\therefore \text{Time of S} = \frac{60}{1} = 60 \text{ h}$

35.  $\frac{(x-1)(x+1)}{(x+1)(x+2)} = \frac{19}{22}$   
 $\frac{x-1}{x+2} = \frac{19}{22}$   
 $22x - 22 = 19x + 38$   
 $3x = 60$   
 $\therefore x = 20$

36. Middle term =  $\sqrt{\frac{2030-2}{3}} = \sqrt{\frac{2028}{3}} = \sqrt{676} = 26$

37.  $1\% = \frac{1}{100}$   
 $= \frac{1}{100} \times \frac{1}{2} = \frac{0.5}{100} = 0.005$

38.  $(x+y)x = 247$   
 $(x+y)y = 114$   
 $\hline$   
 $x^2 + 4x + 4x + y^2 = 361$

$(x+y)^2 = 361$   
 $\therefore x + y = 19$

39.  $9(x-y) = 63$   
 $x - y = 7$   
 $\therefore x \quad y$   
 $9 - 2 = 7$   
 $8 - 1 = 7$   
 $7 - 0 = 7$

$\therefore \text{Unit place possible value} = 2, 1, 0$

40.  $(11)^{10-2x} = 1$   
 $\therefore 10 - 2x = 0$   
 $2x = 10$   
 $\therefore x = 5$