

# ~~Time & Work~~

Date \_\_\_\_\_  
Page \_\_\_\_\_

$$\text{Work} = \text{Time} \times \text{Efficiency}$$

$$\text{Efficiency} = \frac{\text{Work}}{\text{Time}} \rightarrow 20 \text{ hours} \text{ work} \\ 1 \rightarrow \frac{45}{20} = 2.25 \text{ Eff.}$$

Note:- 1 लेट / 1 hour / 1 m की समय की किसी वर्ग  
 २ काम की किसी जगत का किसी समय की Efficiency  
 दरात्री है।

→ Wages (जुनकी)

$$\text{Wage} \propto \text{Work} \quad \text{Wage} \propto \text{Time} \times \text{Eff.}$$

$$\text{Ex:- } A : B : C \quad \text{Wage} = \text{Time} \times \text{Eff.}$$

$$2 : 3 : 4 \text{ eff.}$$

$$1 : 2 : 3 \text{ time}$$

$$2 : 6 : 12 \text{ wage}$$

$$1 : 3 : 6$$

$$(2) \text{ wages: } 9 : 5 : 4 \quad \text{time} \Rightarrow \frac{9}{2} : \frac{5}{2} : 4 \\ \text{eff: } 3 : 2 : 1 \quad = 18 : 15 : 24 \\ = 6 : 5 : 8$$

$$(3) A, B, C \text{ की wages की Ratio } \rightarrow 9 : 4 : 5 \\ \text{time " Ratio } \rightarrow 3 : 2 : 5$$

$$\text{अब } B, 40 \text{ दिनों में किसी work के लिए \\ A \& C की work (A+C) किसी दिनी किसी दिनी के लिए$$

$$A \text{ eff} = \frac{9}{3} : \frac{4}{2} : \frac{5}{5} \quad \text{Total work} = 40 \times 2 = 80$$

$$\text{Eff. } 3 : 2 : 1 \quad (A+C) = \frac{80}{9} - 20 \text{ days}$$

LCM Method

$$A \rightarrow 20 \text{ d} \xrightarrow{\text{eff}} 60 \rightarrow 3.$$

$$B \rightarrow 15 \text{ d} \xrightarrow{\text{LCM}} 15 \text{ d} \rightarrow 4.$$

$$(A+B) \text{ का } \frac{9}{15} \text{ मिलका } (\text{Time}) = \frac{\text{Work}}{\text{eff}}$$

$$\text{Time} \times \text{eff} = \text{work}$$

$$= \frac{60}{3+4} = \frac{60}{7} \text{ days}$$

Q:-

$$\begin{array}{l} A \rightarrow 20 \\ B \rightarrow 40 \longrightarrow 200 \\ C \rightarrow 12.5 \quad 16 \end{array}$$

$(A+B+C)$  का मिलका कितने दिन में हम काम को करेंगे।

$$(A+B+C) \text{ time} = \frac{200}{31} \text{ days}$$

$$(A+C) = \frac{200}{26} = \frac{100}{13} \text{ days}$$

$$\text{Q:- } \frac{4}{3} \text{ काम } 12 \text{ day}$$

$$\frac{2}{3} \text{ काम } 12 \text{ day}$$

$$\text{① } \frac{4}{3} \rightarrow 16 \text{ days}, \quad \text{② } \frac{2}{3} \rightarrow 12 = 18 \text{ days}$$

$$A \rightarrow 12 \xrightarrow{\text{eff}} 36 \quad 3$$

$$B \rightarrow 18 \quad 2$$

$$(A+B) \text{ time} = \frac{36}{5} \text{ days}$$

# →

"Work = constant"

$$\text{time} \propto \frac{1}{\text{eff}}$$

A : B

10 : 20

T = 1 : 2

eff = 2 : 1 A

→ A, B, C फैसले करते हैं 10, 20, 30 रुपये

काम

A B C

time 10 20 30 60 (total work)

1 2 3  
6 total (work)

eff 6 : 3 : 2

$$(A+B)_{\text{time}} = \frac{60}{9} = \frac{20}{3} \text{ day}$$

(A+B+C)

### अब काम की person का समय (eff)/time /

hour/min etc का मान से comparison

काम का मान तो MDH based effective

eff x Time = work

$$m_1 D_1 H_1 = 1 \rightarrow \text{constant} : m_2 D_2 H_2$$

W<sub>1</sub>W<sub>2</sub>

$$\frac{m_1 D_1 H_1}{W_1} = \frac{m_2 D_2 H_2}{W_2}$$

m → eff

D → day

h → hour

w → work

R → rupee

6

Date \_\_\_\_\_  
Page \_\_\_\_\_

O: 15 m, 5 day, 5 h a/e 1st H 6 m, 9 d, h = ?

$$\frac{15}{w} \times \frac{5}{w} \times \frac{5}{w} = \frac{6}{w} \times \frac{9}{w} \times h$$

$$h = \frac{125}{8} = 15 \text{ hrs } 45 \text{ m } \leftarrow$$

O: 18 m 18 D 18 hrs 18 Roti  
5 m 5 D 5 hrs ?

$$\frac{18}{w_1} \times \frac{18}{w_1} \times \frac{18}{w_1} = \frac{5}{w_2} \times \frac{5}{w_2} \times \frac{5}{w_2}$$

$$x = \frac{125}{324} \text{ Roti } \Delta$$

O: 10 men 5 hrs/day 25-h effluent 10 h/day  
4 day Let. same D = 2  
 $m = 10$

$$\frac{1}{10} \times \frac{5}{w} \times \frac{4}{w} = \frac{1}{2} \times \frac{10}{w} \times \frac{10}{w}$$

$$D = 8 \text{ day } \leftarrow$$

# 10 men ~~375~~ (and) 5 woman  $\Rightarrow (10m + 5w)$

for find efficiency  
need one more eqn

10 men  $m/108$  5-w  $\Rightarrow 10m = 5w$

$$\frac{m}{w} = \left( \frac{1}{2} \right)$$

direct find efficiency

#

Alternative method concept:-

Distribution of days bet<sup>n</sup> person:-

→ 10 day (alternative ~~start - end~~)

A      B

5      5

→ day 11 (start A)) start D

A      B

6      5

A      D

5      6

→  $2\frac{1}{7}$  day (A start) )  $\left( \text{start } A \rightarrow D \right)$   $13\frac{1}{3}$  day (start A → D)

A      D

14      14

+1      + \frac{1}{2}

15 d      9 \frac{1}{2} d

A      B      C

4      4      4

1      \frac{1}{3}

5 day       $\frac{13}{3}$  day      4 day

take division

Θ →

A      B      C      D      8 day      92 रुपये

96 रुपये      A & B alternatively      B start

क्रमान्क      श्रेणी       $2\frac{1}{3}$  day      अन्तिम दिन      A : B का

efficiency

$$8A = \frac{A}{3} + \frac{D}{3}$$

$$\frac{3}{2}A = \frac{1}{9}$$

$$\frac{11}{13}A$$

$$\frac{13}{3}A = 4B$$

$$3A = \frac{11A}{3} + 4B$$

A : B

$$\left(\frac{29-11}{3}\right)A = 4B$$

$$12A = 13B$$

$$(A+B) = \frac{96}{25} = 3.84 \text{ L}$$

$$tw = 96$$

# "Puzzle Basic Line type."

Date \_\_\_\_\_  
Page \_\_\_\_\_

## Type of puzzle

- (i) Classification type Question
- (ii) Comparison " "
- (iii) Sequential " "

Q:- (i) Study the following information and answer the given question.

1 B & E are good in Drama & C &

2 A & B " " " C & Physics

3 A, D, & C " " " Ph & History

4 C & A " " " Ph & Math

5 D & E " " " Art & Drama

	Drama	C &	Phy	His	Math
A	X	✓	✓	✓	✓
B	✓	✓	✓	X	X
C	X	X	✓	✓	✓
D	✓	✓	✓	✓	X
E	✓	✓	X	✓	X

(a) Who is good in Ph, His and Drama?

Ans) D

Type (ii) Comparison type:

Q:- There are five friends S, K, M, A, R

(i) S is shorter than K but taller than R.

(ii) M is the tallest.

(iii) A is little shorter than K and little taller than S.

Ans:

$$K > S > R$$

$$M > K > A > S > R$$

(ii) who is the shortest.

Ans: Rehan.

(iii) Sequential order of things:-

Q:- Six players - A, B, C, D, E and F are to be staged, one on each day Monday to Saturday.

- (i) A must be staged a day before E.
- (ii) C ,,, not be ,, on Tuesday .
- (iii) B ,,, be ,, " " following the day on which F is staged.
- (iv) D must be staged on Friday only and should not be immediately preceded by B.
- (v) E must not be staged on the last day of schedule

	A	E	F	B
days	M	T	W	T
	F	B	A	E

D

- ① which of the following play immediately follow B.

Ans: A Ans

# "Clock" by Competition Guru

Date \_\_\_\_\_  
Page \_\_\_\_\_

→ घोड़ी पूरी

→ कोण - समय

→ समय - कोण

→ गेहूं (mirror)

→ जल (water)

→ एव्वेंचुर

→ Hour hand

$$12 \text{ h} = 360^\circ$$

$$1 \text{ h} \rightarrow \frac{360^\circ}{12} = 30^\circ$$

$$1 \text{ m} = \frac{30^\circ}{60} = \frac{1}{2}^\circ$$

$$1 \text{ m} = \frac{30^\circ}{60} = \frac{1}{2}^\circ$$

② minute hand

$$6 \text{ cm} \rightarrow 36^\circ$$

$$1 \text{ m} = \frac{360^\circ}{60}$$

$$1 \text{ m} = 6^\circ$$

③ second hand :-

$$60 \text{ s} \rightarrow 360^\circ$$

$$1 \text{ s} \rightarrow 6^\circ$$

अनल की सुरि बिंदु से  
किन्तु यहाँ रोजा है

Angle

$$\text{hour} - 12 \text{ h} - 360^\circ$$

$$\text{min} - 1 \text{ h} - 360^\circ$$

$$12 \text{ जून फॉर्म}$$

② Second की सुरि निंद

से किन तरीके

$$A = m - 60 - 260$$

$$S.E. = 1 - 360^\circ$$

$$60 \text{ जून}$$

③ Second की

सुरि भेट यहाँ दिए गए

$$12 - \text{hour} - 360^\circ$$

$$12 \times 10 \text{ m} = 720^\circ$$

find the angular distance:

① 2:46 - 2:40 in minute

की सुरि यहाँ लगे की

जो की यहाँ आकर्ष

$$2:46 - 2:40$$

$$24 \text{ m}$$

$$1 \text{ m} = 6^\circ$$

$$24 \text{ m} \rightarrow 8^\circ \times 24 = 144^\circ$$

② 2 बजे 10 m के बीच  
की गये प्रतिक्रिया की सुरि

यहाँ नहीं पड़ता

$$\rightarrow 2 \times 60 + 10 = 130$$

$$1 \text{ m} = 6^\circ$$

$$= \frac{780^\circ}{12 \times 360^\circ} = \frac{780^\circ}{4320^\circ} = \frac{60^\circ}{360^\circ} = \frac{1}{6}$$

Q:- 9:28 AM - 2:20 PM  $\frac{9}{4} \times \frac{2}{1}$  9.5

9:28 AM - 2:20 PM

4 h 52 m

$$\begin{aligned}
 &= 4 \times 30 + 52 \times \frac{1}{2} \rightarrow \text{minute की रुपैये} \\
 &= 120 + 26 \\
 &= 146^\circ \text{ A}
 \end{aligned}$$

मिनट 30  $\frac{9}{4}$   $\frac{9}{4} \times \frac{2}{1}$  9.5 के सुन्दरी के बीच

का क्षेत्रफल :-

①

9:30 : 15 m

$$6 = \frac{3}{10} \text{ m}$$

$$= 3 \times 30 + 15 \times \frac{1}{2}$$

105

$$= 90 + 7.5 = 97.5^\circ \text{ A}$$

②

9:30 : 5

9:6

$$3 \times 30 + 30 \times \frac{1}{2} = 90 + 15 = 105^\circ$$

③

10:40

10 - 40

$$2 \times 30 + \frac{40}{12} = 60 + 20^\circ \leftarrow 80^\circ \text{ A}$$

④

3:30

3 - 6

$$6 \times 30 + \frac{30}{12} = 90 + 15 = 115^\circ \text{ A}$$

$$546 \times 9 \frac{1}{11} = 540$$

44  
10  
360  
360

Date 20  
Page 33

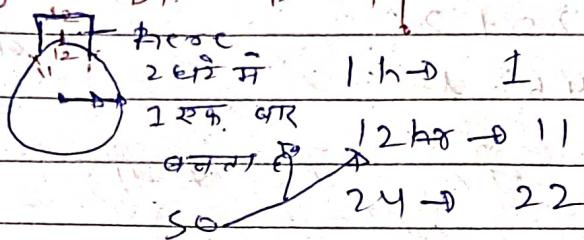
O:-  $6:16^{\circ}\text{C}$   $1 \rightarrow 30^{\circ}$  in  $30^{\circ}$

$$6 \div 3 = 2$$

$$2 \cdot 8 \times 30 + 16 = 84 + 8 = 92 \Delta$$



O:-  $0^{\circ}$  कि. फिल्ड



O:- 5:00 AM to 7:00 PM  $0^{\circ}$  कि. फिल्ड

5:00 AM  $\rightarrow$  7:00 PM

$$5:00 \text{ AM} - 7:00 \text{ PM}$$

$\swarrow$   $\searrow$

$$12 \text{ h} + 2 \text{ h}$$

$$11 + 2 = 13 \text{ OTF}$$

O:- 3 से  $+ \frac{1}{11}$  कि. फिल्ड

$$3 \times \boxed{\frac{60}{11}} \text{ Tick off } 0$$

$$3 \text{ OTF } 16 \frac{4}{11} \text{ m } 45$$



$180^{\circ}$  कि. फिल्ड

$\frac{1}{11}$	$10^{\circ}$
$12 \text{ h} \rightarrow 11 \text{ OTF}$	
$24 \text{ h} = 22 \text{ OTF}$	

Note

6+6 = 120° 6-6 = 0°

11:30 AM  
2024

60 का है

6 जीवन

Date  
Page

D

for  
180°

3 से 4 के बीच 180° का होता

का वर्णन

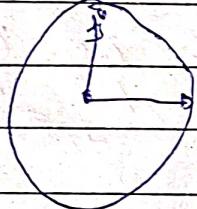
$$3+6 = 9 \times \frac{60}{11} =$$

$$3:49\frac{1}{11}$$

90

91

92 93



1 hr — 12 GTC

12 hr — 22 GTC

24 hr — 44 GTC

O- 6 से 7 के बीच 89, 90, 91, 92, 93, 94

$$(6+3) = 9 \times \frac{60}{11} = 6:49\frac{1}{11}$$

$$\cancel{180^{\circ}} \text{ का } \cancel{6-3} = 3 \times \frac{60}{11} = 6:16\frac{4}{11}$$

Ex

find Any Angle:-

Q

5 से 6 के बीच के समय निम्नलिखित

प्रदायते हैं 24° 27' 4 mint

Note

$0 \pm 1$
$30 \pm 1$
$60 \pm 2$
$90 \pm 30$

$30 \pm 1$

$1 + 30$

$24 \rightarrow 24 = 4$

$\frac{30}{30} = \frac{5}{5}$

$$\text{Now } 5 + \frac{4}{29} = \frac{29 \times 60}{5 \times 11} = 5\frac{2}{11}$$

$$\frac{5-4}{5} = \frac{1}{5} \times 60 =$$

$$5: 22\frac{5}{11} + 4$$

~~(X)~~Minor 9 mege:-Topic 11: 60 or 23: 60- given time      - give  
mirror time      mirror t.~~(e)~~

(1) 4: 45

(2) 12: 30

(3) 11: 00

11: 60

23: 60

11: 60

4: 45

12: 30

7: 15 ~~A~~

11: 30 A

11: 60

60: 60  
1: 9  
1 ~~05~~~~(9)~~

12: 30 23: 60

12: 30

6: 30 ~~A~~~~(X)~~STD 4 तिथि :-

18: 30

(1) 9: 10

- given timeAn 9

18: 30

9: 10

or, 9: 20 ~~A~~

6: 20

# Ranking ARRANGEMENT

Date: 18/10/20  
Page:

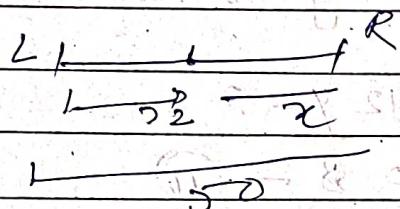
(\*)

Left  $\rightarrow$  18 + h + 22 = Right

$$T = LP + RP - D = 18 + 22 - 1$$

$$T = 39$$

(\*)



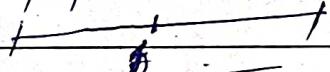
$$C = 23 + Re - 1$$

$$R_1 = 28 -$$

(1)

(2)

TOP 16



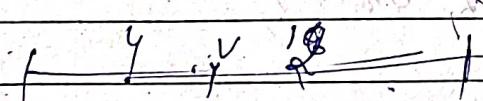
$$T = 44$$

$$+ 6$$

$$+ 5$$

$$\underline{55 D}$$

(3)



$$T = 12 + 4 - 1 = 15$$

$$28 - 15 = 13 \text{ L}$$

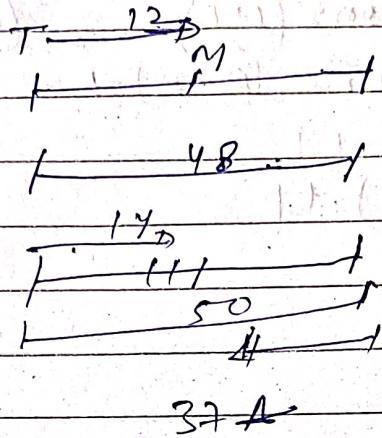
6

Date  
Page

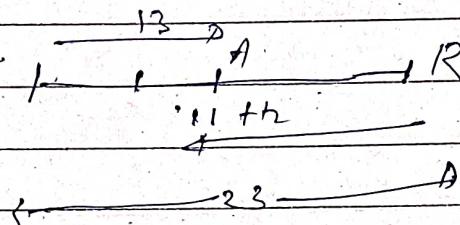
Date  
Page

4

Ans 38 ✓



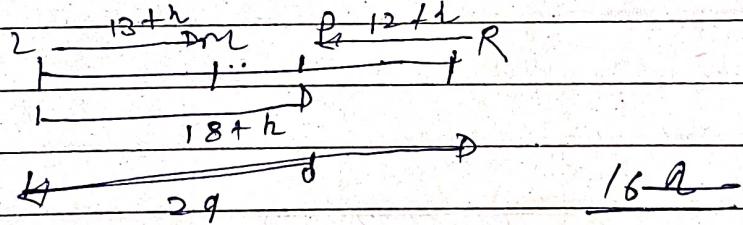
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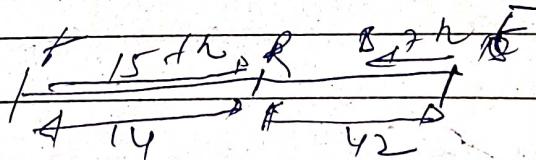
$$23 = 12 + p - 1$$

$$p = 7 \text{ Ans } 8$$

9

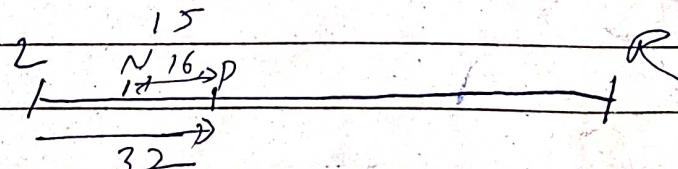


10



$$= 35 \text{ A}$$

11



## Quintal Accad Competition Que

Date \_\_\_\_\_  
Page \_\_\_\_\_

- (i) Total =  $(L+R)-1$       L - Left, R - Right
- (ii) center of Queue =  $\frac{\text{Total}+1}{2}$
- (iii) center of person =  $\left(\frac{L+R}{2}\right)$  or  $\left(\frac{R+L}{2}\right)$
- (iv) mean =  $(L-L)-1$  or  $(R-R)-1$
- (v) Left =  $(\text{Total}-R)+1$
- (vi) Right =  $(\text{Total}-L)+1$