Mahendra's

SSC CGL/CPO/CHSL

REASONING

CLOCK

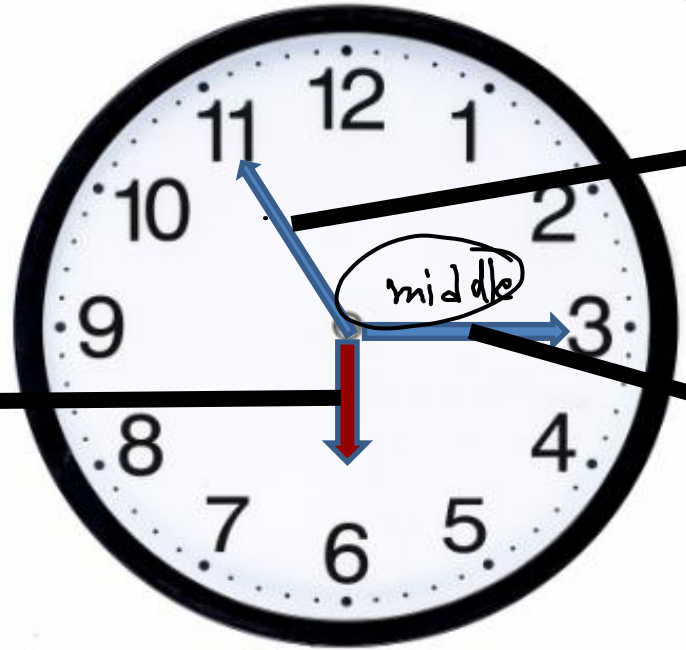
PART-1

LIVE 07:30 PM

CL  CK / घड़ी

REGULAR CLOCK

नियमित घड़ी



Longest → Sec

Second Hand
सेकंड सुई

Hour Hand
घंटे की सूई

Minute Hand
मिनट का सुई

Smallest

Sec > min. > hrs

ABOUT CLOCK

1 hrs = 60 mih.

1 mih = $\frac{1}{60}$ hrs.

1 mih = 60 sec

60 sec = 1 mih

1 sec = $\frac{1}{60}$ mih

60 mih = 1 hrs

1 hrs = 60 mih

1 hrs = 60 x 60

3600 sec

1 hrs = 3600 sec

TYPES OF QUESTION

SOME GENERAL QUESTION

कुछ सामान्य प्रश्न

FIND ANGLE OF ANY TIME

किसी भी समय का कोण खोजें

BASED ON SLOW AND FAST

धीमी और तेज पर आधारित

BASED ON IMAGE

प्रतिबिंब पर आधारित

FIND TIME AT ANY ANGLE

किसी भी कोण पर समय खोजें

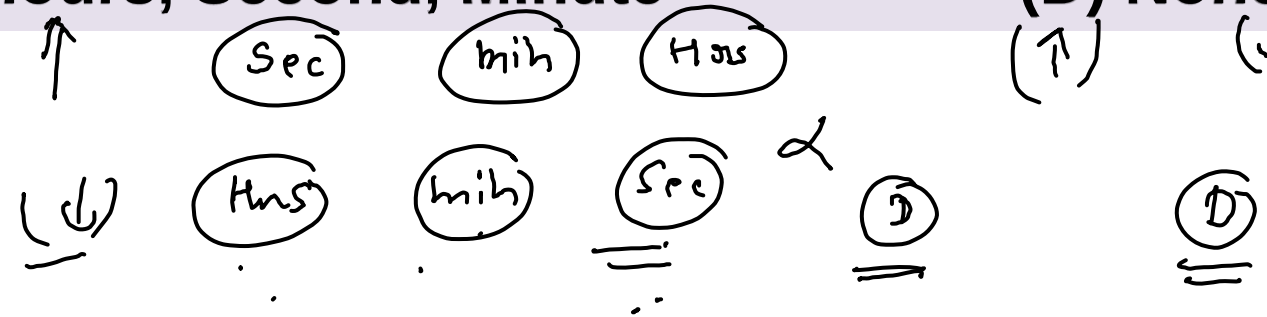
Q.1: According to speed which is the correct sequence of hands in clock ? गति के अनुसार घड़ी में हाथों का सही क्रम कौन सा है ?

(A) Minute, Hours, Second

(B) Second, Minute, Hours

(C) Hours, Second, Minute

(D) None of these



SOME IMPORTANT POINT

12 hrs = 360°

1 hrs = $\frac{360^\circ}{12}$ = 30°

1 hrs = 30°

SOME IMPORTANT POINT

2^{nd}

Q.2: How many hrs in 72 sec ? 72 सेकंड में कितने घंटे होते हैं

(A) 0.02 hrs (B) 0.002

(C) 1/100 hrs (D) can't be determine

1 hrs = 60 mih.

60 mih = 1 hrs.

1 mih = $\frac{1}{60}$ hrs.

60 sec = $\frac{1}{60}$ hrs.

$\therefore$ 1 sec = $\frac{1}{60 \times 60} = \frac{1}{3600}$ hrs.

72 sec = $\frac{72}{3600} = \frac{2}{100}$

$= 0.02$

CALCULATION OF MIN & HRS HAND

min

1 hrs = 360°

60 min = 360°

$$1\ \text{min} = \frac{360^\circ}{60} = 6^\circ$$

hrs.

degree

1 hrs = 30°

60 min = 30°

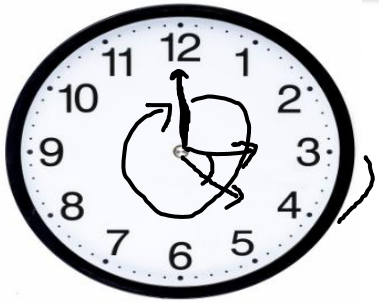
$$1\ \text{min} = \frac{30}{60} = \left(\frac{1}{2}\right)^\circ = 0.5^\circ$$

$$\text{Lead} = 6^\circ - 0.5^\circ = 5.5^\circ = \frac{55}{10} = \left(\frac{11}{2}\right)^\circ$$

min hand — Lead on hrs hand

$$= \left(\frac{11}{2}\right)^\circ$$

CALCULATION OF MIN & HRS HAND



min hand

1 hrs = 60 min (cover)

hrs hand.

1 hrs = 5 min (cover)

1 hrs = 60 − 5 = 55 min lead

55 min lead = 60 min (Actual time)

1 min lead = $\frac{60}{55} = \frac{12}{11}$ min

CALCULATION OF SECOND HAND

Sec

1min = 60sec = 360°

1sec = $\frac{360^\circ}{60}$ 6°

1sec = 6°

Q.3: What will be the ratio of min , hrs and second hand in degree ? डिग्री में मिनट, घंटे और सेकेंड हैंड का अनुपात क्या होगा?

(A)12° 360° 720° (B) 12° 720° 1°

(C) 12° 1° 720° (D) 12° 1° 720°

(A) 1½ min

(D)

(C) ≠ D

Both

min → 6°

hrs. → ½°

sec → 360°

12° 1° 720°

2 × 6° : 2 × ½ : 2 × 360°

12° : 1° : 720°

1 sec what is the ratio

min ↓ hrs sec

$10 \times \frac{1}{10^\circ}$ $10 \times \frac{1}{120^\circ}$ $10 \times 6^\circ$

12×1 $\frac{1}{12} \times 12 : 1 \times 60^\circ$

12 : 1° : 720°

1sec =

1min = 6°

Gosec = 6°

$1\text{sec} = \frac{6}{60^\circ} = \frac{1}{10^\circ}$

$1\text{min} = \frac{1}{2}^\circ$

$\text{Gosec} = \frac{1}{2}^\circ$

$1\text{sec} = \frac{1}{120}^\circ$

Q.4: What is 1/100th part of the distance covered by the second hand in 5 minutes in terms of degree? डिग्री के संदर्भ में 5 मिनट में सेकंड हैंड द्वारा तय की गई दूरी का 1/100 वां हिस्सा कितना है?

(A) 48° **(B) 18°**

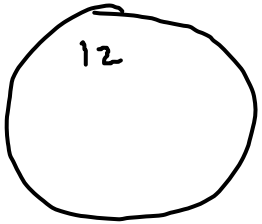
(C)15° **(D) 36°**

1 min = 360°

5 min = $\frac{5 \times 360^\circ}{100}$ = $\frac{1800^\circ}{100}$

18°

ANGLE PATTERN



90° → 2

0° → 1

180° → 1

ANGLE PATTERN

1. 1st Right Angle/ 90° पहला समकोण/ 90°
2. Coincide/0° सम्पाती/0°
3. 2nd Right Angle/ 90° दूसरा समकोण/ 90°
4. Opposite/ 180° विपरीत/ 180°

HOW MANY TIMES ANGLE PATTERN ARE FORMED

कोण पैटर्न कितने बार बनता है

0° → 1

1 hr = 2

12 hr = 24

ANGLE		12 HRS	24 HRS
0°		11	22
90°		22	44
180°		11	22

2 hrs 1 time

4 बार कम

Q.5: At what time between 5:00 to 6:00 o´clock, will the hands of a clock be at right angles first time? 5:00 से 6:00 बजे के बीच किस समय घड़ी की सुइयां पहली बार समकोण पर होंगी?

(A) $5:43\frac{7}{11}$ (B) $5:09\frac{1}{11}$

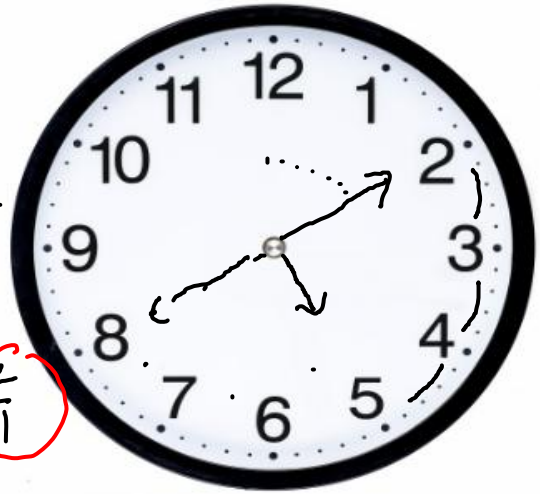
(C) $5:42\frac{8}{11}$ (D) $5:10\frac{10}{11}$

$11\overline{)480}\,(43$, 44, 40, 33, 07

faulty clock

5 to 6

5 C



1hr $-30°$

$5:10\times\frac{12}{11}$ $5:40\times\frac{12}{11}$

$10\frac{10}{11}$

$5:\frac{120}{11}$ $5:\frac{480}{11}$

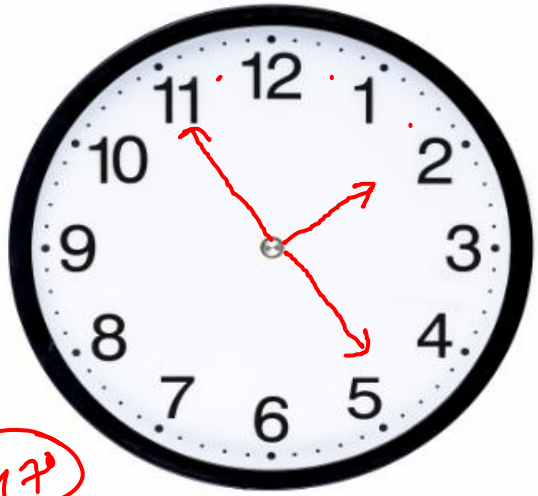
1st $5:10\frac{10}{11}$ 2nd $5:43\frac{07}{11}$

$0+0=0$ $3+7=10$

Q.6: At what time between 2:00 to 3:00 o´clock, will the hands of a clock be at right angles ? 2:00 बजे से 3:00 बजे के बीच किस समय घड़ी की सुइयां समकोण पर होंगी?

(A) $02:27\frac{03}{11}$ (B) 3:00

(C) $02:25\frac{05}{11}$ (D) $2:21\frac{09}{11}$



2h 3m

8 + 9

$2:25 \times \frac{12}{11}$

$2:\frac{300}{11}$

$2:27\frac{03}{11}$

$2:55 \times \frac{12}{11}$

2:60

3:00

2h 3m →

(Only One time)

47°

4 3°