GATE

Hinglish

General Aptitude Quantitative Aptitude

DPP-11

Clocks

- How many times do the hands of a clock point towards each other in a day?
 - (a) 18
- (b) 19
- (c) 22
- (d) 20
- 2. A clock which gains 5 minutes in every two hours is set at 12.00 P.M. on a certain day. Find the time shown by the watch on the next day 11 A.M.
 - (a) 12 hrs 47 min 30 sec
 - (b) 11 hrs 57 min 30 sec
 - (c) 12 hrs 20 min 30 sec
 - (d) 12 hrs 15 min 30 sec
- A clock which loses 10 seconds in every minute is set at 2.00 P.M. on a certain day. Find the time shown by the watch on the next day 8 P.M.
 - (a) 1 P.M.
- (b) 2 P.M.
- (c) 3 P.M.
- (d) 4 P.M.
- A clock which loses 50 seconds every two minutes is set at 6.00 P.M. on a certain day. What is the time shown by this watch on the next day if the current time is 3.00 P.M.?
 - (a) 4 A.M.
- (b) 9:15 A.M.
- (c) 5 A.M.
- (d) 6:15 A.M.
- How many times do the hands of a clock coincide in a day?
 - (a) 22
- (b) 23
- (c) 24
- (d) 48
- How many times are the hands of a clock at right angles in a day?
 - (a) 22
- (b) 48
- (c) 44
- (d) 46

- 7. What is the angle between the hands of the clock at 2:45?
- (a) $180\frac{1^{\circ}}{2}$ (b) $182\frac{1^{\circ}}{2}$ (c) $172\frac{1^{\circ}}{2}$ (d) $181\frac{1^{\circ}}{2}$
- At 9' O clock find the angle between the hands of the clock?
- (a) 270° (b) $250\frac{1^{\circ}}{2}$ (c) $150\frac{1^{\circ}}{2}$ (d) $220\frac{1^{\circ}}{2}$
- At what time between 6 O' clock and 7 O' clock the hands of the clock will coincide?
 - (a) $30\frac{8}{11}$ min (b) $32\frac{8}{11}$ min
 - (c) $20\frac{8}{11}$ min (d) $25\frac{8}{11}$ min
- 10. At what time between 3 O' clock and 4 O' clock the hands of the clock will be at right angles?
 - $30\frac{8}{\text{min }}11$
 - (b) $32\frac{8}{11}$ min
 - (c) $20\frac{8}{11}$ min
 - (d) $25\frac{8}{11}$ min

Answer Key

1. (c)

2.

(b) (c) 3.

(**d**)

5. (a) 6. **(c)**

7. (c) 8. (a) 9. (b) 10. (b)



Hints and Solutions

1. (c)

Pointing towards each other is 0°

- \therefore In a day (24 hours) = 22 times
- 2. (b)

Gaining 5 minutes in 2 hours

= 2.5 minutes/hour

From 12 pm to 11 A.M, number of hours = 23

 \therefore 23 × 2.5 = 57.5 minutes more

- 11 + 57.5 = 11:57:30
- 3. (c)

Losing 10 seconds/minute

= 10 minute/hour

From 2 PM to next day 8 PM, number of hours = 30

 $\therefore 30 \times 10 = 300 \text{ minute less}$

Or 5 hours less.

8 PM - 5 Hours = 3 PM

4. (d)

Losing 50 seconds in two minutes

- = 25 seconds/minute
- = 25 minutes/hour

From 6 PM to 3 PM, number of hours = 21

 \therefore 21 × 25 = 525 minutes less

Or 8 hours 45 minutes less

3 PM - 8 hours 45 minutes = 6: 15 AM

5. (a)

Coincide or 0° in a day

i.e. 24 hours = 22 times

6. (c)

Right angle or 90° in a day

i.e 24 hours = 44 times

7. (c)

$$2 \rightarrow 60^{\circ}$$

$$45\times5.5\rightarrow247.5^{\circ}$$

$$\therefore 247.5 - 60 = 187.5^{\circ}$$

Or
$$360^{\circ} - 187.5^{\circ} = 172.5^{\circ}$$

8. (a)

$$9 \rightarrow 9 \times 30 = 270^{\circ}$$

9. (b)

 $6 \rightarrow 180^{\circ}$

If minute hand covers 180°, it coincides with hour hand

$$\therefore \frac{180}{5.5} = \frac{360}{11} = 32 \frac{8}{11} \min$$

10. (b

As 3' O clock its already 90°

 \therefore After '3' minute hand has to cover 90 + 90 = 180

$$\therefore \frac{180}{5.5} = \frac{360}{11} = 32 \frac{8}{11} \min$$



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