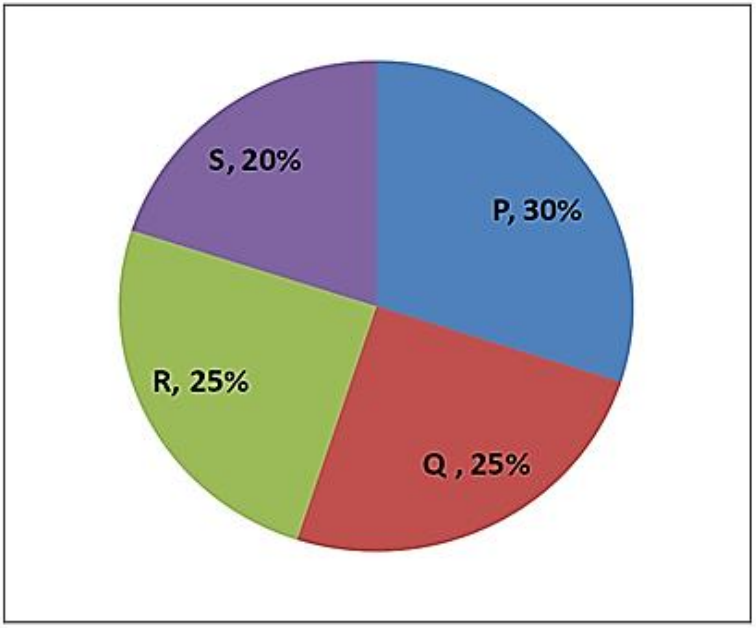
QUESTIONS OF THE WEEK

QUANTITATIVE TECHNIQUES

Passage: Study the pie chart carefully and answer the following questions.

% of contribution of each tap to fill the tank of 400 liter in 1 hour



QUESTIONS OF THE WEEK

QUANTITATIVE TECHNIQUES

1. Time taken to fill the tank by tap P and S is _____ min.

(a) 240
(b) 360
(c) 120
(d) 100

QUESTIONS OF THE WEEK

QUANTITATIVE TECHNIQUES

2. Tap Q opens for 21 min and taps R opens for 18 min after that tap P used to empty the tank and open for 10 min. Amount of water in tank is _____ litre. Consider tank was initially empty.

(a) 32
(b) 37
(c) 45
(d) 50

QUESTIONS OF THE WEEK

QUANTITATIVE TECHNIQUES

3. Tap Q and R start to empty the full tank at 10:00 PM. At what time, tank will be empty?

(a) 11:50 PM
(b) 12:00 AM
(c) 12:00 PM
(d) 11:30 PM

QUESTIONS OF THE WEEK

QUANTITATIVE TECHNIQUES

4. Initially tank was 3/5 filled. After empty the tank by 30 liter using the tap S, tap Q open to fill. How much time tap Q takes to fill the tank?

(a) 1 hour 30 min
(b) 1 hour 40 min
(c) 1 hour 54 min
(d) 1 hour 25 min

QUESTIONS OF THE WEEK

QUANTITATIVE TECHNIQUES

5. Tap P and R open to fill the tank at the same time tap Q and S open to empty the tank. Under this condition, how much time it take fill the tank till mid level?

(a) 2 hours 50 min
(b) 3 hours 15 min
(c) 4 hours 40 min
(d) 5 hours

QUESTIONS OF THE WEEK

QUANTITATIVE TECHNIQUES

1. **Answer: C**

Sol. Amount of tank filled by tap P in 60 min = 30% of 400 = 120 liter
Amount of tank filled by tap S in 60 min = 20% of 400 = 80 liter
Amount of tank filled by tap P and S = 120 + 80 = 200 liter
∴ Time taken to fill 400 liter = 400/200 = 2 hours = 120 min

2. **Answer: C**

Sol. Amount of water fill by tap Q in 60 min = 25% of 400 = 100 liter
Flow rate of tap Q = 100/60 = 5/3 liter/m
Amount of tank filled in 21 min = (5/3) × 21 = 35 liter
For the flow rate of tap R,
Amount of water fill by tap R in 60 min = 25% of 400 = 100 liter
Flow rate of tap R = 100/60 = 5/3 liter/m
Amount of water filled in 18 min = (5/3) × 18 = 30 liter
For the flow rate of tap P,
Amount of water filled by tap P = 30% of 400 = 120 liter
Flow rate of tap P = 120/60 = 2 liter/m
Amount empty by tap P in 10 min = 10 × 2 = 20 liter
∴ Final volume in tank = 35 + 30 - 20 = 45 liter

3. **Answer: B**

Sol. For the flow rate of Q and R,
Amount of water empty by tap Q = Amount of water empty by tap R = 25% of 400 = 100 liter
Flow rate of Q = flow rate of R = 100/60 = 5/3 liter/m
Combine flow rate = 5/3 + 5/3 = 10/3 liter/m
For the time taken to empty the tank,
Time taken to empty 400 liter = 400 × 3/10 = 120 min. = 2 hour
∴ Time when tank empty = 10:00 + 2:00 = 12:00 AM

4. **Answer: C**

Sol. Water in tank = (3/5) × 400 = 240 liter
Water in tank after closing tap S = 240 - 30 = 210 liter
Amount need to fill = 400 - 210 = 190 liter
For the flow rate of Q,
Amount of tank filled in 60 min = 25% of 400 = 100 liter
Flow rate of tap Q = 100/60 = 5/3 liter/m
∴ Time taken to fill the tank = 190 × (3/5) = 114 min = 1 hour 54 min

5. **Answer: D**

Sol. P fills 120 liter in 60 minutes
R fills 100 liter in 60 minutes
Q empty 100 liter in 60 minutes
S empty 80 liter in 60 minutes
Total 40 liter is filled using all four pipes in 60 minutes
Time to fill 200 liters = 200/40 = 5 hours