Time and Work Questions & Concept

Time and Work is one of the most common quantitative aptitude topics which is asked in the Government exams. This is one of those topics which candidates are familiar with even before they start their competitive exam preparation.

Time & Work - Time and work deals with the time taken by an individual or a group of individuals to complete a piece of work and the efficiency of the work done by each of them.

Given below are the basic type of questions which may be asked in the exam with respect to the time and work topic:

- To find the efficiency of a person
- To find the time taken by an individual to do a piece of work
- To find the time taken by a group of individuals to complete a piece of work
- Work done by an individual in a certain time duration
- Work done by a group of individuals in a certain time duration

Time & Work - Sample Questions

Discussed below are a few time and work questions to give an idea as to what type of questions are asked in the competitive exam and what format and pattern is used for the same.

Q 1. A builder appoints three construction workers Akash, Sunil and Rakesh on one of his sites. They take 20, 30 and 60 days respectively to do a piece of work. How many days will it take Akash to complete the entire work if he is assisted by Sunil and Rakesh every third day?

1. 10 days
2. 15 days
3. 25 days
4. 30 days
5. 45 days

Answer: (2) 15 days

Solution:

Total work done by Akash, Sunil and Rakesh in 1 day = {(1/20) + (1/30) + (1/60)} = 1/10
Work done along by Akash in 2 days = (1/20) × 2 = 1/10
Work Done in 3 days (1 day of all three together + 2 days of Akash's work) = (1/10) + (1/10) = 1/5
So, work done in 3 days = 1/5
Time taken to complete the work = 5×3 = 15 days

Q 2. To complete a piece of work, Samir takes 6 days and Tanvir takes 8 days alone respectively. Samir and Tanvir took Rs.2400 to do this work. When Amir joined them, the work was done in 3 days. What amount was paid to Amir?

1. Rs. 300
2. Rs. 400
3. Rs. 800
4. Rs. 500
5. Rs. 100

Answer: (1) Rs.300

Solution:

Total work done by Samir and Tanvir = {(1/6) + (1/8)} = 7/24
Work done by Amir in 1 day = (1/3) - (7/24) = 1/24
Amount distributed between each of them = (1/6) : (1/8) : (1/24) = 4:3:1
Amount paid to Amir = (1/24) × 3 × 2400 = Rs.300

Q 3. Dev completed the school project in 20 days. How many days will Arun take to complete the same work if he is 25% more efficient than Dev?

1. 10 days
2. 12 days
3. 16 days
4. 15 days
5. 5 days

Answer: (3) 16 days

Solution:

Let the days taken by Arun to complete the work be x
The ratio of time taken by Arun and Dev = 125:100 = 5:4
5:4 :: 20:x
⇒ x = {(4×20) / 5}
⇒ x = 16

Q 4. Time taken by A to finish a piece of work is twice the time taken B and thrice the time taken by C. If all three of them work together, it takes them 2 days to complete the entire work. How much work was done by B alone?

1. 2 days
2. 6 days
3. 3 days
4. 5 days
5. Cannot be determined

Answer: (2) 6 days

Solution:
Time taken by A = x days
Time taken by B = x/2 days
Time Taken by C = x/3 days
⇒ {(1/x) + (2/x) + (3/x) = 1/2
⇒ 6/x = 1/2
⇒ x = 12
Time taken by B = x/2 = 12/2 = 6 days

Q 5. Sonal and Preeti started working on a project and they can complete the project in 30 days. Sonal worked for 16 days and Preeti completed the remaining work in 44 days. How many days would Preeti have taken to complete the entire project all by herself?

1. 20 days
2. 25 days
3. 55 days
4. 46 days
5. 60 days

Answer: (5) 60 days

Solution:
Let the work done by Sonal in 1 day be x
Let the work done by Preeti in 1 day be y
Then, x+y = 1/30 --------- (1)
⇒ 16x + 44y = 1 --------- (2)
Solving equation (1) and (2),
x = 1/60
y = 1/60
Thus, Preeti can complete the entire work in 60 days

Interested aspirants can also check the links given below and strengthen their preparation for the quantitative aptitude section:

Data Sufficiency	Data Interpretation	Quadratic Equations
Pipes and Cistern	Mixture & Alligation	Problems on Trains