CDS-AFCAT 1 2025

SSBCrack EXAMS

LIVE

MATHS

TIME & WORK

CLASS 3

NAVJYOTI SIR

SSBCrack EXAMS

08 Oct 2024 Live Classes Schedule

8:00AM	08 OCTOBER 2024 DAILY CURRENT AFFAIRS	RUBY MA'AM
9:00AM	08 OCTOBER 2024 DAILY DEFENCE UPDATES	DIVYANSHU SIR

SSB INTERVIEW LIVE CLASSES

9:30AM	OVERVIEW ON TAT & WAT	ANURADHA MA'AM

NDA 1 2025 LIVE CLASSES

11:30AM	GK - AGRICULTURE	RUBY MA'AM
1:00PM	BIOLOGY - MCQ - CLASS 1	SHIVANGI MA'AM
4:00PM	MATHS - TRIGONOMETRY - CLASS 1	NAVJYOTI SIR
5:30PM	ENGLISH - SPOTTING ERRORS - CLASS 4	ANURADHA MA'AM

CDS 1 2025 LIVE CLASSES

11:30AM	GK - AGRICULTURE	RUBY MA'AM
1:00PM	BIOLOGY - MCQ - CLASS 1	SHIVANGI MA'AM
5:30PM	ENGLISH - SPOTTING ERRORS - CLASS 4	ANURADHA MA'AM
7:00PM	MATHS - TIME & WORK - CLASS 3	NAVJYOTI SIR

AFCAT 1 2025 LIVE CLASSES

4:00PM	STATIC GK - AWARDS & HONOURS	DIVYANSHU SIR
5:30PM	ENGLISH - SPOTTING ERRORS - CLASS 4	ANURADHA MA'AM
7:00PM	MATHS - TIME & WORK - CLASS 3	NAVJYOTI SIR

SSBCrack EXAMS

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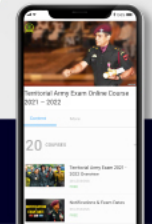

SSBCrack EXAMS

Q) A can do a job in 3 days less time than B. A works at it alone for 4 days and then B takes over and completes it. If altogether 14 days were required to finish the job, then in how many days would each of them take alone to finish it?

(a) 17 days, 20 days (b) 12 days, 15 days ✓

(c) 13 days, 16 days (d) None of these

$A \rightarrow (x-3)$ days — $\frac{1}{x-3}$

$B \rightarrow x$ days $\rightarrow \frac{1}{x}$

$4\left(\frac{1}{x-3}\right) = \frac{4}{x-3}$

$B \rightarrow 10$ days

$\frac{\cancel{15}^{5}(\cancel{8}^{2})}{\cancel{12}_{\cancel{3}}} = 10$

Rem. work $= 1 - \frac{4}{x-3} = \frac{x-3-4}{x-3} = \left(\frac{x-7}{x-3}\right)$

$$\frac{\frac{x-7}{x-3}}{10} = \frac{1}{x}$$

$10 = \frac{x(x-7)}{x-3}$ → works for option (b)

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Q) A can do a job in 3 days less time than B. A works at it alone for 4 days and then B takes over and completes it. If altogether 14 days were required to finish the job, then in how many days would each of them take alone to finish it?

(a) 17 days, 20 days (b) 12 days, 15 days

(c) 13 days, 16 days (d) None of these

Ans: (b)

Q) A group of men decided to do a job in 4 days. But since 20 men dropped out every day, the job completed at the end of the 7th day. How many men were there at the beginning?

(a) 240 (b) 140
(c) 280 (d) 150

x

$4 \times x = (x \times 1) + (x-20) + (x-40) + (x-60) + (x-80) + (x-100) + (x-120)$

(a) LHS = 960 RHS = $240 + 220 + 200 + 180 + 160 + 140 + 120 \neq 960$

(1000)

(b) LHS = 560 RHS = $140 + 120 + 100 + 80 + 60 + 40 + 20$

(OR) $4 \times x = x + (x-20) + (x-40) + (x-60) + (x-80) + (x-100) + (x-120)$

$= 7x - 20(1+2+3+4+5+6)$

$= 7x - 20\frac{(6)(7)}{2}$

$4x = 7x - 420$

$3x = 420$

$x = 140$

SSBCrack EXAMS

Q) A group of men decided to do a job in 4 days. But since 20 men dropped out every day, the job completed at the end of the 7th day. How many men were there at the beginning?

(a) 240 (b) 140

(c) 280 (d) 150

Ans: (b)

Q) A can do 50% of the job in 16 days, B can do 1/4th of the job in 24 days. In how many days can they do $3/4^{th}$ of the job working together?

(a) 24 (b) 9 (c) 21 (d) 18

A ⟶ 32 days

B ⟶ 24 × 4 = 96 days

$$\frac{1}{32} + \frac{1}{96} = \frac{3+1}{96} = \frac{4}{96}$$

$$= \frac{1}{24}$$

1 ⟶ $\frac{1}{24}$

× 18 ( ) × 18

18 days $\frac{3}{4} = \frac{18}{24}$

(OR) $\frac{\frac{3}{4}}{\frac{1}{24}}$

$= \frac{24 \times 3}{4}$ (6, 4)

$= 18$

Q) A can do 50% of the job in 16 days, B can do 1/4th of the job in 24 days. In how many days can they do $3/4^{th}$ of the job working together?

(a) 24 (b) 9 (c) 21 (d) 18

Ans: (d)

SSBCrack EXAMS

Q) A and B can together complete a task in 18 hours. After 6 hours A leaves. B takes 36 hours to finish rest of the task. How many hours would A have taken to do the task if he worked alone?

(a) 54 (b) 45 (c) 21 (d) 27

$(A+B) \longrightarrow \frac{1}{18}$ (y)

$6\left(\frac{1}{18}\right) = \frac{1}{3}$

Rem. work $= 1 - \frac{1}{3} = \frac{2}{3}$

$\frac{\frac{2}{3}}{(x)} = \frac{1}{36}$ ← (B's 1 day work)

$x = \frac{\frac{2}{3}}{36} = \frac{2}{3 \times 36} = \frac{1}{54}$

$\frac{1}{54} + \frac{1}{y} = \frac{1}{18} \Rightarrow \frac{1}{y} = \frac{3-1}{54} = \frac{2}{54} = \frac{1}{27}$

$y = 27$ //

SSBCrack EXAMS

Q) A and B can together complete a task in 18 hours. After 6 hours A leaves. B takes 36 hours to finish rest of the task. How many hours would A have taken to do the task if he worked alone?

(a) 54 (b) 45 (c) 21 (d) 27

Ans: (d)

Q) Two workers '*A*' and '*B*' working together completed a job in 5 days. Had '*A*' worked twice as efficiently as he actually did and '*B*' worked one-third as efficiently as he actually did, the work would have completed in 3 days. In how many days could '*A*' alone complete the job?

(*a*) $3\frac{1}{2}$ days (*b*) $4\frac{1}{6}$ days (*c*) $5\frac{1}{2}$ days (*d*) $6\frac{1}{4}$ days

$A \rightarrow x$ days $\rightarrow \left(\frac{1}{x}\right)$

$B \rightarrow \left(\frac{1}{5} - \frac{1}{x}\right)$

$$2\left(\frac{1}{x}\right) + \frac{1}{3}\left(\frac{1}{5} - \frac{1}{x}\right) = \frac{1}{3}$$

$$\frac{2}{x} + \frac{1}{15} - \frac{1}{3x} = \frac{1}{3}$$

$$\frac{6-1}{3x} = \frac{4}{15} \Rightarrow 3x = \frac{5 \times 15}{4}$$

$$x = \frac{75}{12} = 6\frac{3}{12} = 6\frac{1}{4} \text{ days}$$

SSBCrack EXAMS

Q) Two workers 'A' and 'B' working together completed a job in 5 days. Had 'A' worked twice as efficiently as he actually did and 'B' worked one-third as efficiently as he actually did, the work would have completed in 3 days. In how many days could 'A' alone complete the job?

$(a)\ \ 3\frac{1}{2}$ days $\quad (b)\ \ 4\frac{1}{6}$ days $\quad (c)\ \ 5\frac{1}{2}$ days $\quad (d)\ \ 6\frac{1}{4}$ days

Ans: (d)

Q) Two pipes A and B can fill a tank in 36 min. and 45 min. respectively. A waste pipe C can empty the tank in 30 min. First A and B are opened. After 7 min., C is also opened. In how much time, the tank is full?

(a) 60 min (b) 30 min

(c) 39 min (d) 13 min

A → $\frac{1}{36}$ B → $\frac{1}{45}$ C → $\left(\frac{1}{30}\right)$

$\left(\frac{1}{36}+\frac{1}{45}\right)7 = \left(\frac{10+8}{360}\right)7 = \frac{7}{20}$

Rem. → $1-\frac{7}{20} = \left(\frac{13}{20}\right)$

$$\frac{\frac{13}{20}}{\left(\frac{1}{36}+\frac{1}{45}-\frac{1}{30}\right)}$$

$$= \frac{\frac{13}{20}}{\frac{1}{20}-\frac{1}{30}} = \frac{13}{\cancel{20}} \times \frac{\cancel{60}^{3}}{1\cancel{0}}$$

$= 39$ mins

SSBCrack EXAMS

Q) Two pipes A and B can fill a tank in 36 min. and 45 min. respectively. A waste pipe C can empty the tank in 30 min. First A and B are opened. After 7 min., C is also opened. In how much time, the tank is full?

(a) 60 min
(b) 30 min
(c) 39 min
(d) 13 min

Ans: (c)

Q) Working together A and B can do a job in 40 days, B and C in 36 days and all three together in 24 days. In how many days can B alone do the job?

(a) 60 (b) 90 (c) 72 (d) 120

$(A+B) \longrightarrow \frac{1}{40}$

$(B+C) \longrightarrow \frac{1}{36}$ $\Big)\oplus$

$(A+B+C) \longrightarrow \frac{1}{24}$

$A+2B+C \longrightarrow \frac{1}{40}+\frac{1}{36}$

$-\quad A+B+C \longrightarrow \frac{1}{24}$

(B's 1 day work) $= \left(\frac{1}{40}+\frac{1}{36}-\frac{1}{24}\right) = \frac{9+10-15}{360} = \frac{4}{360} = \frac{1}{90}$

90 days

Q) Working together A and B can do a job in 40 days, B and C in 36 days and all three together in 24 days. In how many days can B alone do the job?

(a) 60 (b) 90 (c) 72 (d) 120

Ans: (b)

SSBCrack EXAMS

Q) A man undertakes to do a certain work in 150 days. He employs 200 men. He finds that only a quarter of the work is done in 50 days. How many additional men should he employ so that the whole work is finished in time?

(a) 75 (b) 85 (c) 100 (d) 120

$$\frac{\text{no. of men} \times \text{no. of days}}{\text{fraction of work}}$$

$$\frac{200 \times 50}{\left(\frac{1}{4}\right)} = \frac{(200+x) \times 100}{\left(\frac{3}{4}\right)}$$

$$30000 = (200+x)\,100$$

$$300 = 200 + x$$

$$x = 100$$

SSBCrack EXAMS

Q) A man undertakes to do a certain work in 150 days. He employs 200 men. He finds that only a quarter of the work is done in 50 days. How many additional men should he employ so that the whole work is finished in time?

(*a*) 75 (*b*) 85 (*c*) 100 (*d*) 120

Ans: (c)

SSBCrack EXAMS

Q) In a water tank there are two outlets. It takes 20 minutes to empty the tank if both the outlets are opened. If the first outlet is opened, the tank is emptied in 30 minutes. What is the time taken to empty the tank by second outlet ?

(a) 30 minutes
(b) 40 minutes
(c) 50 minutes
(d) 60 minutes

SSBCrack EXAMS

Q) In a water tank there are two outlets. It takes 20 minutes to empty the tank if both the outlets are opened. If the first outlet is opened, the tank is emptied in 30 minutes. What is the time taken to empty the tank by second outlet ?

(a) 30 minutes (b) 40 minutes

(c) 50 minutes (d) 60 minutes

Ans: (d)

SSBCrack EXAMS

Q) If 6 men and 8 women can do a piece of work in 10 days; and 13 men and 24 women can do the same work in 4 days, then what is the ratio of daily work done by a man to that of a woman ?

(a) 2 : 1
(b) 1 : 2
(c) 4 : 3
(d) 3 : 4

SSBCrack EXAMS

Q) If 6 men and 8 women can do a piece of work in 10 days; and 13 men and 24 women can do the same work in 4 days, then what is the ratio of daily work done by a man to that of a woman ?

(a) 2 : 1
(b) 1 : 2
(c) 4 : 3
(d) 3 : 4

Ans: (a)

SSBCrack EXAMS

Q) The efficiencies of A, B and C are in the ratio of 5 : 3 : 2. Working together, they can complete a task in 21 hours. In how many hours will B alone complete 40% of that task?

(a) 28 (b) 24 (c) 35 (d) 21

SSBCrack EXAMS

Q) The efficiencies of A, B and C are in the ratio of 5 : 3 : 2. Working together, they can complete a task in 21 hours. In how many hours will B alone complete 40% of that task?

(a) 28 (b) 24 (c) 35 (d) 21

Ans: (a)

SSBCrack EXAMS

Q) To do a certain work, the ratio of efficiency of A to that of B is 3 : 7. Working together, they can complete the work in $10\frac{1}{2}$ days. They work together for 8 days. 60% of the remaining work will be completed by A alone in:

(a) $5\frac{1}{2}$ days

(b) 5 days

(c) $6\frac{1}{2}$ days

(d) 4 days

SSBCrack EXAMS

Q) To do a certain work, the ratio of efficiency of A to that of B is 3 : 7. Working together, they can complete the work in $10\frac{1}{2}$ days. They work together for 8 days. 60% of the remaining work will be completed by A alone in:

(a) $5\frac{1}{2}$ days

(b) 5 days

(c) $6\frac{1}{2}$ days

(d) 4 days

Ans: (b)

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LIVE

MATHS

AVERAGE

CLASS 1

NAVJYOTI SIR