

CDS-AFCAT 1 2025

SSBCrack
EXAMS

LIVE

MATHS

TIME & WORK

CLASS 2



NAVJYOTI SIR



07 Oct 2024 Live Classes Schedule

8:00AM -- 07 OCTOBER 2024 DAILY CURRENT AFFAIRS RUBY MA'AM

9:00AM -- 07 OCTOBER 2024 DAILY DEFENCE UPDATES DIVYANSHU SIR

SSB INTERVIEW LIVE CLASSES

9:30AM -- OVERVIEW ON PPDT & PRACTICE ANURADHA MA'AM

NDA 1 2025 LIVE CLASSES

11:30AM -- GK - MINERALS & RESOURCES RUBY MA'AM

1:00PM -- BIOLOGY - GROWTH IN ANIMALS SHIVANGI MA'AM

4:00PM -- MATHS - SETS, RELATION & FUNCTION - CLASS 4 NAVJYOTI SIR

5:30PM -- ENGLISH - SPOTTING ERRORS - CLASS 3 ANURADHA MA'AM

CDS 1 2025 LIVE CLASSES

11:30AM -- GK - MINERALS & RESOURCES RUBY MA'AM

1:00PM -- BIOLOGY - GROWTH IN ANIMALS SHIVANGI MA'AM

5:30PM -- ENGLISH - SPOTTING ERRORS - CLASS 3 ANURADHA MA'AM

7:00PM -- MATHS - TIME & WORK - CLASS 2 NAVJYOTI SIR

AFCAT 1 2025 LIVE CLASSES

10:00AM -- REASONING - FIGURE COMPLETION RUBY MA'AM

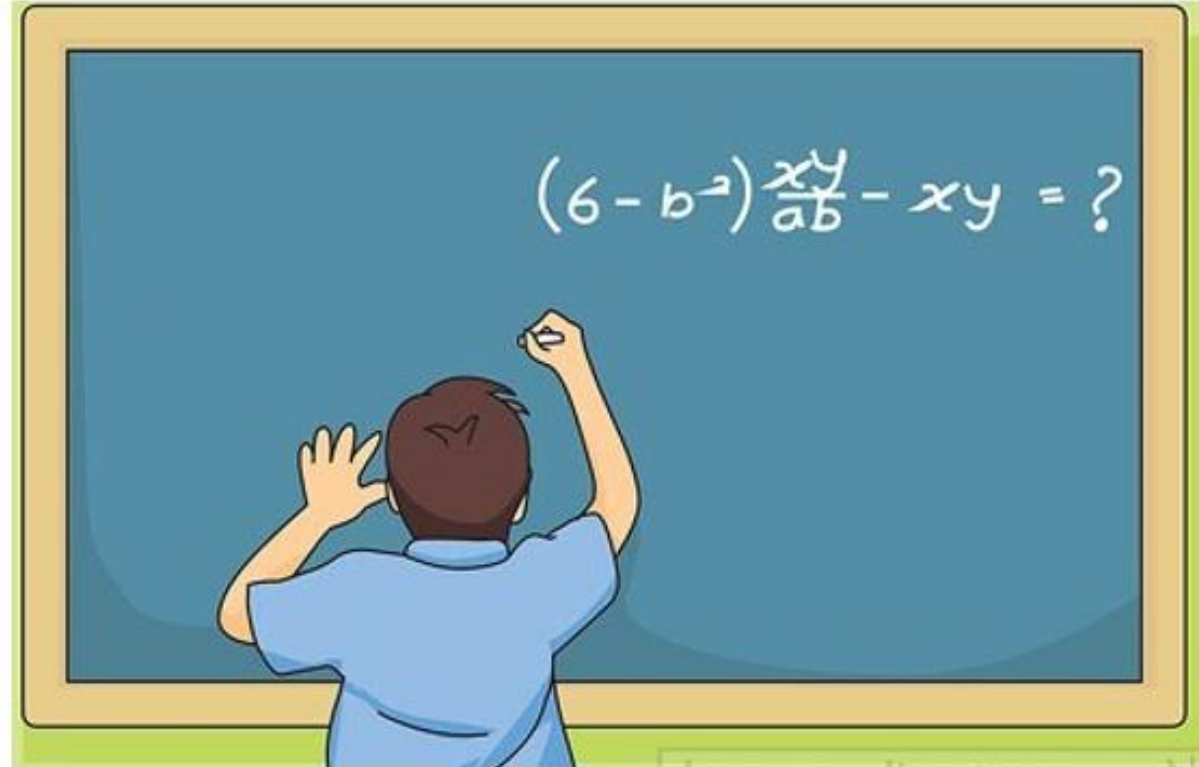
4:00PM -- STATIC GK - OLYMPICS & COMMON WEALTH GAMES DIVYANSHU SIR

5:30PM -- ENGLISH - SPOTTING ERRORS - CLASS 3 ANURADHA MA'AM

7:00PM -- MATHS - TIME & WORK - CLASS 2 NAVJYOTI SIR



PRACTISE
TIME !



Q) Two workers A and B working together completed a job in 5 days. If A worked twice as efficiently as he actually did and B worked $\frac{1}{3}$ as efficiently as he actually did, the work would have completed in 3 days. Find the time for A to complete the job alone. $\xrightarrow{x \text{ days}}$

$$\begin{array}{cc} \underline{A} & \underline{B} \\ \left(\frac{1}{x}\right) & \left(\frac{1}{5} - \frac{1}{x}\right) \end{array}$$

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

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

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

$$\frac{3x}{5} = \frac{15}{4} \Rightarrow x = \frac{75}{12}$$

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

(a) $6\frac{1}{4}$ days ✓

(b) $5\frac{3}{4}$ days

(c) 5 days

(d) None of these

Q) Two workers A and B working together completed a job in 5 days. If A worked twice as efficiently as he actually did and B worked $\frac{1}{3}$ as efficiently as he actually did, the work would have completed in 3 days. Find the time for A to complete the job alone.

- (a) $6\frac{1}{4}$ days (b) $5\frac{3}{4}$ days
(c) 5 days (d) None of these

Ans: (a)

Q) A and B can do a piece of work in 30 and 36 days respectively. They began the work together but A leaves after some days and B finished the remaining work in 25 days. After how many days did A leave? \curvearrowright 'd' days,

- (a) 6 days (b) 5 days (c) 11 days (d) 10 days

$$\frac{A}{\frac{1}{30}} \quad \frac{B}{\frac{1}{36}}$$

$$\begin{aligned} \text{Work in 'n' days} &= n \left(\frac{1}{30} + \frac{1}{36} \right) \\ &= n \left(\frac{6+5}{180} \right) = n \left(\frac{11}{180} \right) \\ &= \frac{11n}{180} \end{aligned}$$

$$\frac{\text{Remaining}}{1 - \frac{11n}{180}} = \frac{180 - 11n}{180}$$

$$\left(\frac{\frac{180 - 11n}{180}}{\frac{1}{36}} \right) = 25$$

CDS & AFCAT 1 2025 LIVE CLASS - MATHS - PART 2

$$\frac{180 - 11n}{\frac{180}{36}} = 25$$

$$180 - 11n = 125$$

$$11n = 55$$

$$\underline{n = 5}$$

- Q)** A and B can do a piece of work in 30 and 36 days respectively. They began the work together but A leaves after some days and B finished the remaining work in 25 days. After how many days did A leave?
- (a) 6 days (b) 5 days (c) 11 days (d) 10 days

Ans: (b)

Q) George takes 8 hours to copy a 50 page manuscript while Sonia can copy the same manuscript in 6 hours. How many hours would it take them to copy a 100 page manuscript, if they work together?

- (a) $6\frac{6}{7}$ (b) 9 (c) $9\frac{5}{7}$ (d) 14

1 hr, together $\rightarrow \left(\frac{1}{8} + \frac{1}{6} \right) = \frac{14}{48} = \left(\frac{7}{24} \right)$

$\begin{array}{l} 50 \rightarrow \frac{7}{24} \downarrow \div 2 \\ \times 2 \left\{ \begin{array}{l} 100 \\ \hline \end{array} \right. \rightarrow \frac{1}{2} \left(\frac{7}{24} \right) = \left(\frac{7}{48} \right) \rightarrow \frac{\text{Time}}{\frac{7}{48}} = 6\frac{6}{7} \text{ hours} \end{array}$

Q) George takes 8 hours to copy a 50 page manuscript while Sonia can copy the same manuscript in 6 hours. How many hours would it take them to copy a 100 page manuscript, if they work together?

- (a) $6\frac{6}{7}$ (b) 9 (c) $9\frac{5}{7}$ (d) 14

Ans: (a)

Q) In an army camp ration is available for 100 soldiers for 10 days. After 2 days, 60 soldiers joined. Then, for how many more days will the remaining ration last?

(a) 7 days

(b) 6 days

(c) 5 days

(d) 4 days

160

$$\frac{800}{160} = 5 \text{ days}$$

$$100 \times 10 = 1000$$

$$\begin{array}{r} 1000 \\ - 200 \\ \hline 800 \end{array}$$

$$100 \times 2$$

Q) In an army camp ration is available for 100 soldiers for 10 days. After 2 days, 60 soldiers joined. Then, for how many more days will the remaining ration last?

(a) 7 days

(b) 6 days

(c) 5 days

(d) 4 days

Ans: (c)

Q) A is 40% more efficient than B and C is 20% less efficient than B. Working together, they can finish a work in 5 days. In how many days will A alone complete 70% of that work?

- (a) 9 (b) 7 (c) 10 ✓ (d) 8

B → x days B's efficiency = B's 1 day work = $\frac{1}{x}$

A → $\frac{1}{x} \left(1 + \frac{40}{100}\right) = \frac{7}{5x} \rightarrow \frac{7}{5 \times 16} = \left(\frac{7}{80}\right)$

C → $\frac{1}{x} \left(1 - \frac{20}{100}\right) = \frac{4}{5x}$

$(A+B+C) = \frac{1}{5}$

$$\left. \begin{aligned} \frac{7}{5x} + \frac{1}{x} + \frac{4}{5x} &= \frac{1}{5} \\ \frac{7+5+4}{5x} &= \frac{1}{5} \\ x &= 16 \end{aligned} \right\}$$

$$\frac{\frac{70}{100}}{\frac{7}{80}} = \frac{\cancel{7} \times \frac{8}{\cancel{80}}}{\cancel{7}} = \underline{8 \text{ days}}$$

Q) A is 40% more efficient than B and C is 20% less efficient than B. Working together, they can finish a work in 5 days. In how many days will A alone complete 70% of that work?

- (a) 9 (b) 7 (c) 10 (d) 8

Ans: (d)

Q) A can do 50% more work than B in the same time. B alone can do a piece of work in 30 hours. B starts working and had already worked for 12 hours when A joins him. How many hours should B and A work together to complete the remaining work ?

- (a) 6 hours (b) 12 hours
(c) 4.8 hours (d) 7.2 hours

$$B \rightarrow \left(\frac{1}{30}\right) \quad A \rightarrow \frac{1}{30} \left(1 + \frac{50}{100}\right) = \frac{3}{2} \times \frac{1}{30} = \left(\frac{1}{20}\right)$$

$$12 \left(\frac{1}{30}\right) = \underline{\left(\frac{4}{10}\right)} = \underline{\frac{2}{5}}$$

Remaining

$$1 - \frac{2}{5} = \frac{3}{5}$$
$$\frac{\frac{3}{5}}{\frac{1}{30} + \frac{1}{20}}$$
$$= \frac{3}{8} \times \frac{120}{50} = \frac{36}{5}$$

7.2 hours

Q) A can do 50% more work than B in the same time. B alone can do a piece of work in 30 hours. B starts working and had already worked for 12 hours when A joins him. How many hours should B and A work together to complete the remaining work ?

- (a) 6 hours
- (b) 12 hours
- (c) 4.8 hours
- (d) 7.2 hours

Ans: (d)

Q) A and B are two taps which can fill a tank individually in 10 minutes and 20 minutes respectively. However, there is a leakage at the bottom, which can empty a filled tank in 40 minutes. If the tank is empty initially, how much time will both the taps take to fill the tank with leakage?

- (a) 2 minutes
(c) 5 minutes

- (b) 4 minutes
(d) 8 minutes

$$1 \text{ min} \rightarrow \left(\frac{1}{40}\right)$$

$$1 \text{ min} \rightarrow \begin{array}{c} A \\ \frac{1}{10} \end{array} \quad \begin{array}{c} B \\ \frac{1}{20} \end{array}$$

$$1 \text{ min} \rightarrow \frac{1}{10} + \frac{1}{20} - \frac{1}{40} = \frac{4 + 2 - 1}{40} = \left(\frac{5}{40}\right) = \left(\frac{1}{8}\right)$$

8 mins — filled fully ✓

Q) A and B are two taps which can fill a tank individually in 10 minutes and 20 minutes respectively. However, there is a leakage at the bottom, which can empty a filled tank in 40 minutes. If the tank is empty initially, how much time will both the taps take to fill the tank with leakage ?

- (a) 2 minutes (b) 4 minutes
(c) 5 minutes (d) 8 minutes

Ans: (d)

Q) A certain number of persons can complete a work in 34 days working 9 h a day. If the number of persons is decreased by 40%, then how many hours a day should the remaining persons work to complete the work in 51 days?

- (a) 19 (b) 8 (c) 12 (d) 10

no. of persons $\rightarrow x$

$$x \left(\frac{3}{5} \right)$$

$$34 \times 9 \times \cancel{x} = 51 \times h \times \frac{3}{5} \cancel{x}$$

$$h = \frac{34 \times 9}{51 \times \frac{3}{5}} = \frac{34 \times 9 \times 5}{51 \times 3} = 10 \text{ hours}$$

Q) A certain number of persons can complete a work in 34 days working 9 h a day. If the number of persons is decreased by 40%, then how many hours a day should the remaining persons work to complete the work in 51 days?

- (a) 19 (b) 8 (c) 12 (d) 10

Ans: (d)

Q) The efficiency of P is twice that of Q , whereas the efficiency of P and Q together is three times that of R . If P , Q and R work together on a job, in what ratio should they share their earnings?

(a) $2 : 1 : 1$

(b) $4 : 2 : 1$

(c) $4 : 3 : 2$

(d) $4 : 2 : 3$

Q) The efficiency of P is twice that of Q , whereas the efficiency of P and Q together is three times that of R . If P , Q and R work together on a job, in what ratio should they share their earnings?

(a) $2 : 1 : 1$

(b) $4 : 2 : 1$

(c) $4 : 3 : 2$

(d) $4 : 2 : 3$

Ans: (a)

Q) 2 men and 1 woman can complete a piece of work in 14 days, while 4 women and 2 men can do the same work in 8 days. If a man gets ₹ 90 per day, what should be the wages per day of a woman ?

(a) ₹ 48

(b) ₹ 60

(c) ₹ 72

(d) ₹ 135

$$2x + y = \frac{1}{14}$$

$$2x + 4y = \frac{1}{8}$$

$x \rightarrow$ 1 Men's 1 day work
 $y \rightarrow$ 1 women's 1 " "

Q) 2 men and 1 woman can complete a piece of work in 14 days, while 4 women and 2 men can do the same work in 8 days. If a man gets ₹ 90 per day, what should be the wages per day of a woman ?

(a) ₹ 48

(b) ₹ 60

(c) ₹ 72

(d) ₹ 135

Ans: (b)

Q) P and Q together can do a job in 6 days. Q and R can finish the same job in $\frac{60}{7}$ days. P started the work and worked for 3 days. Q and R continued for 6 days. Then the difference of days in which R and P can complete the job is

- (a) 8 (b) 12 (c) 10 (d) 15

Q) P and Q together can do a job in 6 days. Q and R can finish the same job in $\frac{60}{7}$ days. P started the work and worked for 3 days. Q and R continued for 6 days. Then the difference of days in which R and P can complete the job is

- (a) 8 (b) 12 (c) 10 (d) 15

Ans: (c)

Q) A , B and C can do work separately in 16, 32 and 48 days respectively. They started the work together but B leaving off 8 days and C six days before the completion of the work. In what time is the work finished?

- (a) 12 days (b) 10 days (c) 14 days (d) 9 days

Q) A , B and C can do work separately in 16, 32 and 48 days respectively. They started the work together but B leaving off 8 days and C six days before the completion of the work. In what time is the work finished?

- (a) 12 days (b) 10 days (c) 14 days (d) 9 days

Ans: (a)

Q) The labourers A, B, C were given a contract of ₹ 750 for doing a certain piece of work. All the three together can finish the work in 8 day. A and C together can do it in 12 day, while A and B together can do it in $13\frac{1}{3}$ days. The money will be divided in the ratio

- (a) 4:5:6 (b) 4:7:5 (c) 5:7:4 (d) 5:6:8

Q) The labourers A, B, C were given a contract of ₹ 750 for doing a certain piece of work. All the three together can finish the work in 8 day. A and C together can do it in 12 day, while A and B together can do it in $13\frac{1}{3}$ days. The money will be divided in the ratio

- (a) 4:5:6 (b) 4:7:5 (c) 5:7:4 (d) 5:6:8

Ans: (a)

Q) A pump can be operated both for filling a tank and for emptying it. The capacity of tank is 2400 m^3 . The emptying capacity of the pump is 10 m^3 per minute higher than its filling capacity. Consequently, the pump needs 8 minutes less to empty the tank to fill it. Find the filling capacity of pump.

- (a) $50 \text{ m}^3/\text{min}$ (b) $60 \text{ m}^3/\text{min}$
(c) $58 \text{ m}^3/\text{min}$ (d) None of these

Q) A pump can be operated both for filling a tank and for emptying it. The capacity of tank is 2400 m^3 . The emptying capacity of the pump is 10 m^3 per minute higher than its filling capacity. Consequently, the pump needs 8 minutes less to empty the tank to fill it. Find the filling capacity of pump.

- (a) $50 \text{ m}^3/\text{min}$ (b) $60 \text{ m}^3/\text{min}$
(c) $58 \text{ m}^3/\text{min}$ (d) None of these

Ans: (a)

Q) Consider the following statements :

- I. If 18 men can earn ₹ 1440 in 5 days, then 10 men can earn ₹1280 in 6 days.
- II. If 16 men can earn ₹1120 in 7 days, then 21 men can earn ₹ 800 in 4 days.

Which of the above statements is/are correct?

- (a) Only I
- (b) Only II
- (c) Both I and II
- (d) Neither I nor II

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- I. If 18 men can earn ₹ 1440 in 5 days, then 10 men can earn ₹1280 in 6 days.
- II. If 16 men can earn ₹1120 in 7 days, then 21 men can earn ₹ 800 in 4 days.

Which of the above statements is/are correct?

- (a) Only I
- (b) Only II
- (c) Both I and II
- (d) Neither I nor II

Ans: (d)

Q) A garrison of ' n ' men had enough food to last for 30 days. After 10 days, 50 more men joined them. If the food now lasted for 16 days, what is the value of n ?

(a) 200

(b) 240

(c) 280

(d) 320

Q) Seventy-five men are employed to lay down a railway line in 3 months. Due to certain emergency conditions, the work was to be finished in 18 days. How many more men should be employed to complete the work in the desired time?

- | | |
|---------|---------|
| (a) 300 | (b) 325 |
| (c) 350 | (d) 375 |

Q) Seventy-five men are employed to lay down a railway line in 3 months. Due to certain emergency conditions, the work was to be finished in 18 days. How many more men should be employed to complete the work in the desired time?

- (a) 300 (b) 325
(c) 350 (d) 375

Ans: (a)

Q) A can do a piece of work in 10 days, while B alone can do it in 15 days. They work together for 5 days and the rest of the work is done by C in 2 days. If they get ₹ 450 for the whole work, how should they divide the money ?

- (a) ₹ 225, ₹ 150, ₹ 75 (b) ₹ 250, ₹ 100, ₹ 100
(c) ₹ 200, ₹ 150, ₹ 100 (d) ₹ 175, ₹ 175, ₹ 100

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