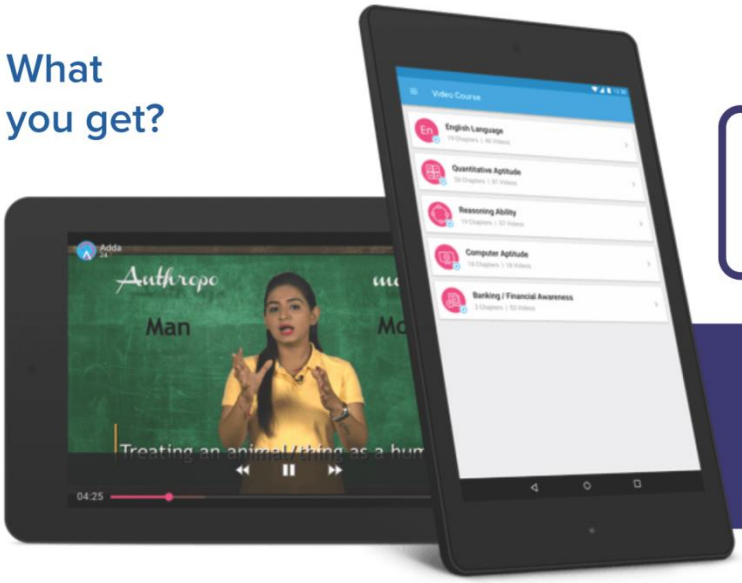
VIDEO COURSES
for Government Exams

From the oldest and most trusted name in Exam Preparation which gave us Career Power, Bankersadda, Sscadda, here is the latest offering – Video Courses that are tailor-made for the Govt. Job aspirants of digital India. Various banking and SSC exams are conducted online with regular changes to exam pattern and level of questions. We understand the changing needs of the students and have devised a unique solution, making preparation easy, cost-effective and efficient.

Video courses for banking and SSC consist of exhaustive video lectures for government exams which are pre-loaded on an SD card. We offer these courses in two variants: [Android Tab + SD-Card] or [SD Card only]. The SD Card can be run on your personal android device as well. The video courses will run on the Adda247 mobile app, the number one App for Bank and SSC exam preparation.

What you get?

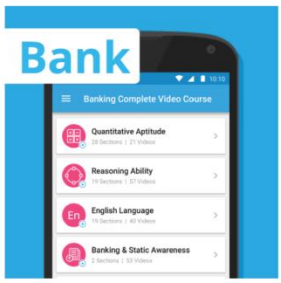


VIDEO COURSE

Video Courses are available in:

- 32 GB Micro SD Card
- Android Tablet (SD Card included)

Available Courses



Banking Complete Video Course

Maths Video Course for SSC Exams

Maths + English Video Course for SSC Exams

SSC Complete Video Course

To Purchase visit : elearning.adda247.com

For any query : Call us at +91-90691 42412 • Email us at elearning@adda247.com

Solutions

S1. Ans.(b)

Sol. (A's profit) : (B's profit) : (C's profit)

= (10000 × 4 + 15000 × 8) : (15000 × 4 + 10000 × 8) : (16000 × 4)

= 40 : 35 : 16

$\therefore$ B's profit $= \frac{35}{91} \times 11830$

= 4550

S2. Ans.(b)

Sol. One day work of A and B together

$= \frac{1}{30} + \frac{1}{45}$

$= \frac{1}{18}$

Rest work when A leaves $= 1 - \frac{3}{18} = \frac{5}{6}$

Let C can finish the work in x days alone.

$\therefore$ One day work of B and C together

$= \frac{1}{45} + \frac{1}{x}$

$= \frac{45 + x}{45x}$

$\therefore \frac{5}{6}$th work will be completed by B and C together in $\left(\frac{45x}{x + 45}\right) \times \frac{5}{6}$ days.

$\therefore \frac{5}{6} \times \frac{45x}{x + 45} = \frac{25}{2}$

$\Rightarrow 3x = x + 45$

$\Rightarrow x = 22\frac{1}{2}$ days

S3. Ans.(d)

Sol. Let Ram invested Rs. 3x and Rs. 5x amounts in schemes A and B respectively.

$\therefore x = \frac{12800}{8}$

x= 1600 rupees

Let total time was t years

$\therefore \frac{4800 \times 15 \times t}{100} + \frac{8000 \times 10 \times t}{100} = 4560$

$\Rightarrow 720t + 800t = 4560$

$\Rightarrow t = \frac{4560}{1520}$

$\Rightarrow t = 3$ years

S4. Ans.(e)

Sol. Let Ram's speed is x kmph

Time taken by Shyam in first case = Time taken by Shyam in second case

$\Rightarrow \frac{60}{x} - 1 = \frac{60}{2x} + \frac{1}{2}$

$\Rightarrow \frac{30}{x} = \frac{3}{2}$

$\Rightarrow x = 20$ kmph

S5. Ans.(a)

Sol. Area of paths = 36 × 28 – 825

= 183 sq. metre

S6. Ans.(d)

Sol. Let quantity of A & B be 4x & x.

According to the question,

$\frac{4x - 10\times\frac{4}{5}}{x - 10\times\frac{1}{5} + 10} = \frac{2}{3}$

$\Rightarrow \frac{4x - 8}{x + 8} = \frac{2}{3}$

⇒ 12x – 24 = 2x + 16

⇒ 10x = 40

x = 4

∴ Required answer = 4x = 4 × 4 = 16 litres

S7. Ans.(c)

Sol. Let initially x litres of Acid were drawn off

$\therefore 24 = 54\left(1 - \frac{x}{54}\right)^2$

⇒ 24 × 54 = (54 – x)²

⇒ x² – 108x + 1620 = 0

⇒ x² – 90x – 18x + 1620 = 0

⇒ (x – 90) (x – 18) = 0

× ✓

∴ x = 18 litres

S8. Ans.(e)

Sol. Time taken by one man to complete the work = 2 days

Time taken by one woman to complete the work = 4 × 4 = 16 days

Time taken by 1 child to complete the same work = 5 × 4 = 20

$\therefore$ 1 M = 8W, 1M = 10C

$\therefore\ (2M + 4W + 10C) = \left(2\times10C + 4\times\frac{10}{8}\ C + 10C\right) = 35C$

$\therefore$ Work will be completed by given no. of persons in

$= \frac{20}{35}$

$= \frac{4}{7}$ days

S9. Ans.(c)

Sol. Distance travelled by smaller wheel in one revolution

$= 2\times\frac{22}{7}\times7$

$= 44$ cm

And by larger wheel

$= 2\times\frac{22}{7}\times14$

$= 88$ cm

Now, if speed of smaller wheel is x cm/sec

Then, speed of larger wheel = 2x cm/sec

ATQ,

10x + 10 × 2x = 1980

$\Rightarrow$ x = 66 cm/sec

S10. Ans.(a)

Sol. Let the sum = x

Then, $\frac{x\times6\times3}{100} + \frac{x\times9\times5}{100} + \frac{x\times13\times3}{100} = 8160$

$\Rightarrow 18x + 45x + 39x = 8160\times100$

$\therefore x = \frac{8160\times100}{102} = 8000$

$\therefore$ Sum = Rs. 8000

S11. Ans.(a)

Sol. Clearly, my brother was born 3 years before I was born & after 4 years, my sister was born.

So, father's age when brother was born = 28 + 4 = 32 years

Mother's age when brother was born = 26 – 3 = 23 years

S12. Ans. (e)

Sol. Total annual income = 3400 × 4 + 2200 × 5 + 4200 × 3 + 2800 = 40,000

$\therefore$ Required answer = $\frac{1}{8}$ × 40, 000 = Rs. 5000

S13. Ans.(c)

Sol. Let the required hours per day are t hours

$\therefore \frac{10\times4\times5}{n} = \frac{20\times2\times t}{2n}$

Where n = No. of answer papers

$\Rightarrow t = \frac{20}{2}$

$\Rightarrow$ t = 10 hours

S14. Ans.(a)

Sol. Let original strength is 100 in 1996.

Strength in $2001 = 100\times\frac{110}{100}\times\frac{90}{100}\times\frac{110}{100}\times\frac{90}{100}\times\frac{110}{100} = 107.81$

$\therefore$ Percentage increase in strength in 2001 compared to 1996

= 107.81 – 100

= 7.81

$\simeq 8\%$

S15. Ans.(e)

Sol. Let the upstream speed be x km/h

And the downstream speed by y km/h

Then, according to the question,

$\frac{40}{x}+\frac{55}{y} = 13$ ..(i)

and, $\frac{30}{x}+\frac{44}{y} = 10$ ...(ii)

Solving the equations (i) and (ii), we get x = 5 and y = 11

Therefore, the speed of the man in still water $= \frac{1}{2}(x+y) = \frac{1}{2}(5+11) = \frac{16}{2} = 8$ km/h

S16. Ans.(b)

Sol. Required no. of good laptops

= 85 × 2455 + 80 × 4505 + 75 × 3754

= 2,08,675 + 3,60,400 + 2,81,550

= 8,50,625

S17. Ans.(c)

Sol. Required average

$= \frac{1}{3}\times(90+93+94)\times2256$

$= 2,08,304$

S18. Ans.(c)

Sol. Required percentage

$= \frac{(30+20)\times 3405}{(25+15)\times 3754} \times 100 \simeq 113\%$

S19. Ans.(d)

Sol. Required ratio

$= \frac{80\times 4505}{80\times 2455} = \frac{901}{491}$

S20. Ans.(a)

Sol. Required difference = (75 + 90) × 3405 – (83 + 94) × 2256

= 5,61,825 – 3,99,312

= 1,62,513

S21. Ans.(a)

Sol.

I. $x^2 + 12x + 36 = 0$

$x^2 + 6x + 6x + 36 = 0$

$x (x + 6) + 6 (x + 6) = 0$

$x = -6$ or -6

II. $y^2 = 16$

$y \pm 4$

$y > x$

S22. Ans.(e)

Sol.

I. $9x^2 + 3x - 2 = 0$

$9x^2 + 6x - 3x - 2 = 0$

$3x(3x + 2) - 1 (3x + 2) = 0$

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

II. $8y^2 + 6y + 1 = 0$

$8y^2 + 4y + 2y + 1 = 0$

$4y(2y + 1) + 1 (2y + 1) = 0$

$y = \frac{-1}{4}$ or $\frac{-1}{2}$

No relation

S23. Ans.(d)

Sol.

I. $2x^2 - 25x + 77 = 0$

$2x^2 - 14x - 11x + 77 = 0$

$2x(x-7) - 11(x-7) = 0$

$x = 7 \text{ or } \frac{11}{2}$

II. $2y^2 - 21y + 55 = 0$

$2y^2 - 10y - 11y + 55 = 0$

$2y(y-5) - 11(y-5) = 0$

$y = \frac{11}{2} \text{ or } 5$

$x \geq y$

S24. Ans.(e)

Sol.

I. $2x^2 + 9x + 7 = 0$

$2x^2 + 7x + 2x + 7 = 0$

$x(2x+7) + 1(2x+7) = 0$

$x = -1 \text{ or } \frac{-7}{2}$

II. $2y^2 + 9y + 10 = 0$

$2y^2 + 5y + 4y + 10 = 0$

$y(2y+5) + 2(2y+5) = 0$

$y = -2 \text{ or } \frac{-5}{2}$

No relation

S25. Ans.(e)

Sol.

I. $9x^2 - 33x + 28 = 0$

$9x^2 - 12x - 21x + 28 = 0$

$3x(3x-4) - 7(3x-4) = 0$

$x = \frac{4}{3} \text{ or } \frac{7}{3}$

II. $6y^2 - 25y + 25 = 0$

$6y^2 - 15y - 10y + 25 = 0$

$3y(2y-5) - 5(2y-5) = 0$

$y = \frac{5}{2} \text{ or } \frac{5}{3}$

$\therefore$ No relation

S26. Ans.(b)

Sol. Required percentage

$= \frac{25\% \text{ of } 60,0000}{30\% \text{ of } 750000} \times 100$

= 66.67%

S27. Ans.(c)

Sol. Required difference

$= (25 + 13) \times 7500 - (18 + 12) \times 6000$

= 1,05,000

S28. Ans.(a)

Sol. Required ratio

$= \frac{12 \times 7500}{10 \times 6000} = \frac{3}{2}$

S29. Ans.(c)

Sol. Required percentage

$= \frac{(30 + 25 + 12) \times 7500 - (35 + 18 + 10) \times 6000}{(30 + 25 + 12) \times 7500} \times 100$

$= 24.77$

$\approx 25\%$

S30. Ans.(a)

Sol. Required percentage

$= \frac{13 \times 7500}{12 \times 6000} \times 100$

$= 135.41$

$\approx 135\%$ (approximately)

S31. Ans.(a)

Sol.

$\approx \frac{1}{4} \times 2800 + 15 \times 2400$

$= 700 + 36000 = 36700$

S32. Ans.(b)

Sol.

$\approx \frac{1080}{36} + 187 \times 20 = 30 + 3740 = 3770$

S33. Ans.(e)
Sol.
$\approx \frac{5}{4}\times 4876 + 88\times 15 = 5\times 1219 + 1320$
$= 6095 + 1320 = 7415$

S34. Ans.(e)
Sol.
$\approx 158\times 4 + \frac{1}{5}\times 850 + ? = 952$
$\Rightarrow 632 + 170 + ? = 952$
$\therefore ? \approx 150$

S35. Ans.(c)
Sol.
$36.01^3\times 4096^{\frac{1}{2}}\times 37.99^2 \div (9^3\times 75.98^2) = 4^?$
$\text{or, } 4^? \approx \frac{36^3\times\sqrt{4096}\times 38^2}{9^3\times 76^2}$
$\approx \frac{4^3\times 9^3\times 4^3\times 38\times 38}{9^3\times 76\times 76} \approx \frac{4^3\times 4^3}{2\times 2}$
$\text{or, } 4^? \approx 4^3\times 4^2 = 4^5$
$\therefore ? \approx 5$

S36. Ans.(c)
Sol. Amount invested by Gaurav in scheme M = 54% of 84000
= Rs. 45360
∴ Amount invested by Rishabh in scheme M = 84000 – 45360
= Rs. 38640
Let the required rate be r% per annum. Then,
$= \frac{45360\times r\times 4}{100} - \frac{38640\times r\times 4}{100} = 4435.20$
$\Rightarrow 6720\times r\times 4 = 443520$
$\Rightarrow$ r = 16.5%

S37. Ans.(a)
Sol. Required ratio = (Total amount invested by Gaurav in schemes O and Q together) : (Total amount invested by Rishabh in schemes O and Q together)
= (40% of 32000 + 42% of 64000) : (60% of 32000 + 58% of 64000)
= 39680 : 56320 = 31 : 44

S38. Ans.(a)
Sol. Difference of amount invested by Gaurav and Rishabh in
Scheme O = 60% of 32000 – 40% of 32000 = 20% of 32000
= Rs. 6400

∴ Required difference in their interest

$= 6400\left[\left(1+\frac{12}{100}\right)^2 - 1\right] = 6400\times0.2544 = \text{Rs. } 1628.16$

S39. Ans.(b)

Sol. Amount invested by Rishabh in investment R

=(100 – 64)% of 96000 = 36% of 96000 = Rs. 34560

Then, total interest earned by Rishabh after 4 year

$= \frac{34560\times7\times2}{100}$ + 21% of (34560 + SI of first 2 years)

= 4838.40 + 8273.664 = Rs. 13112.064

S40. Ans.(a)

Sol. Amount invested by Gaurav in each of scheme S and N

= 60% of 72000 = 43200

Let the rate of interest be r% per annum.

Then, according to the question,

$349.92 = \frac{43200\times r^2}{100^2}$

or, $r^2 = 81$

∴ r = 9%

S41. Ans.(b)

Sol. Pattern is

$3^3 + 1 = 28$

$4^3 + 2 = 66$

$5^3 + 3 = 128$

$6^3 + 4 = 220$

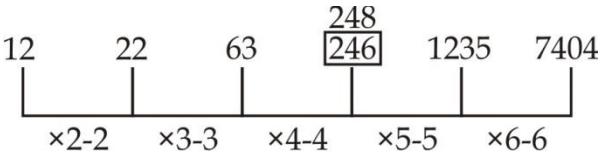
$7^3 + 5 = 348$

$8^3 + 6 = 518$

∴ Wrong term = 224

S42. Ans.(a)

Sol.



Wrong number = 246

S43. Ans.(a)
Sol. Pattern is
$-9^3, -7^3, -5^3, -3^3, -1^3$
∴ Wrong term = 439

S44. Ans.(d)
Sol. Pattern is
×4 + 5, ×5+ 4, × 6 + 3, × 7+2
∴ Wrong term = 780

S45. Ans.(a)
Sol. Pattern is
16 × 2.5 = 40
40 × 2.5 = 100
100 × 2.5 = 250
250 × 2.5 = 625
625 × 2.5 = 1562.5

S46. Ans.(b)
Sol.

ART	Engg.
AMU = 247×12 = 2964	AMU = 273×12 = 3276
DU = 247×17 = 4199	DU = 273×15 = 4095

Total students = 2964 + 4199 + 3276 + 4095 = 14534

S47. Ans.(d)
Sol.

Awadh	ART
Engg : 273×12	AU : 247×14
Arts : 247×15	DU : 247×17

Desired ratio = $\frac{273\times12+247\times15}{247(14+17)} = \frac{537}{589}$

S48. Ans.(c)
Sol. For ART Graduates
Avg (AU + AMU + Awadh + VBS) = $\frac{247\times(14+12+15+8)}{4} = 3025.75$
Engg. Graduates
Avg. (Top 5 colleges) = $\frac{273\times76}{5} = 4149.6$
Desired difference = $|3025.75 - 4149.6| = 1123.85 \simeq 1124$

S49. Ans.(b)

Sol. Engg. Students added to VBS University from LPU

$= \frac{1}{3} \times 14 \times 273 = 1274$

New central angle for LPU $= \frac{3822-1274}{27300} \times 360 = \frac{2548}{27300} \times 360 = 33.6°$

Total students of Engg. In VBS = 273 × 17 + 1274 = 5915

Central angle for VBS = $\frac{5915}{27300} \times 360 = 78°$

Desired difference $= 78° - 33.6° = 44.4°$

S50. Ans.(a)

Sol. Failed Engg. Students = $\frac{1}{4} \times 27300 = 6825$

Two-third of Arts student who passed = $\frac{2}{3} \times \frac{80}{100} \times 24700 \approx 13173$

Difference = 13173 – 6825 = 6348