

15 -09-2011 PDA-CS APTITUDE TEST 5 SOLUTIONS

1. Consider A takes X hours to finish the work. As already given in the question $A = 2B$ and $A = 3C$ to finish the work. Therefore $X = 2B$ & $X = 3C$ so, A, B and C take X, X/2 and X/3 hours respectively to finish the work.

Then if they working together $(\frac{1}{X} + \frac{2}{X} + \frac{3}{X}) = \frac{1}{2} \Rightarrow \frac{6}{X} = \frac{1}{2}$
 $\Rightarrow X = 12$. so B takes 6 hours to finish the work.

Option b.

2. the ratio of $4^{3.5} : 2^5$ is $= 4^{3.5} / 2^5 = (2^2)^{3.5} / 2^5 = 2^7 / 2^5 = 2^2 = 4$;
So the required ratio is 4:1.

Option b.

3. let the ages of father and son age four years ago be $3x$ and x years resply.

Then, $[(3x+4) + 4] + [(x+4) + 4] = 64 \Rightarrow 4x = 48 \Rightarrow x = 12$.

Therefore father's present age = $3x = 36$ years.

Option b

4. let the required fraction be x. Then, $\frac{1}{x} - x = \frac{9}{20}$;

$(1 - x^2)/x = 9/20 \Rightarrow 20x^2 + 9x - 20 = 0 \Rightarrow 20x + 25x - 16x - 20 = 0$;

$5x(4x+5) - 4(4x+5) = 0 \Rightarrow (4x+5)(5x-4) = 0 \Rightarrow x = 4/5$.

Option c

5. let the cost price of the pen be Rs.1. Then the cost price of 8 pens = Rs.8;

Selling price of 8 pens = Rs.12.

So, Gain% = (selling price of 8 pens - cost price of 8 pens / cost price of 8 pens) * 100

$\Rightarrow (4/8) * 100 = 50\%$.

Option c

6. work done by X in 4 days $= (1/20 * 4) = 1/5$; remaining work $= (1 - 1/5) = 4/5$;

(X + Y)'s 1 days work $= (1/20 + 1/12) = 8/60 = 2/15$.

Now, $2/15$ work is done by X & Y in 1 day. so, $4/5$ work will be done by

X and Y in $(15/2 * 4/5) = 6$ days. Hence, total time taken $= (6+4) = 10$ days.

Option b

7. Amount of salt in 30kg solution $= (2/100 * 30) \text{ kg} = 0.6 \text{ kg}$

Let x be the pure salt added.

Then, $(0.6+x)/(30+x) = 10/100 \Rightarrow 60 + 100x = 300 + 10x$

$\Rightarrow x = 8/3 = 2 \frac{2}{3}$.

Option a

8. $R - Q = R - T \Rightarrow Q = T$

Also $R + T = 50 \Rightarrow R + Q = 50$. so R-Q cant be determined.

Option d

9. 3 digit no's divisible by 6 are 102, 108, ..., 996

This is an A.P. in which $a = 102, d = 6, l = 996, T_n = 996$

$a + (n-1)d = t_n \Rightarrow 102 + (n-1)6 = 996 \Rightarrow n = 150$

Option b

10. lets assume selling price as Rs. 100. Since profit = 20% of selling price, actual profit $= 20/100 * (100) = \text{Rs.} 20$

Cost price = 100 - 20 = Rs. 80. so the actual profit %, i.e., with reference to the cost price
= $20/80 \times (100) = 25\%$ Option a

11. A:B=5:4, B:C=9:10 = $(9 \times 4/9):(10 \times 4/9) = 4:40/9$
A:B:C = 5:4:40/9 = 45:36:40
Sum of ratio terms $45+36+40=121$
Therefore c's share = $Rs.(1210 \times 40/121) = Rs.400$ Option b

12. let the present ages of the man & his wife be $4X$ & $3X$ yrs resply.
Then, $(4X+4)/(3X+4) = 9/7 \Rightarrow 7(4X+4) = 9(3X+4) \Rightarrow X=8$
So, their present ages are 32 & 25 yrs resply. Suppose they were married Z yrs ago.
Then, $32 - Z/24 - Z = 5/3 \Rightarrow 2Z = 24 \Rightarrow Z = 12$ Option c

13. let total money be Rs. x . A's 1 day's wages = $Rs.x/21$, B's 1 day's wages = $Rs.x/28$
(A+B)'s 1 day's wages = $Rs.(x/21 + x/28) = Rs.x/12$. So money is sufficient to pay the wages of both
For 12 days. Option a

14. unit digit in 6374^{1793} = unit digit in $4^{1793} \Rightarrow$ unit digit in $[(4^2)^{896} \times 4]$ = unit digit in $(6 \times 4) = 4$
Unit digit in 625^{317} = unit digit in $5^{317} = 5$
Unit digit in 341^{391} = unit digit in $1^{491} = 1$. So reqd digit = $4 \times 5 \times 1 = 20$. So the digit is 0 Option a

15. Let retail price = Rs. 100. then commission is 36.
Selling price = $Rs(100 - 36) = Rs.64$. but profit = 8.8%. so cost price = $Rs.(100/108.8 \times 64) = Rs.1000/17$
New commission = Rs. 12., new selling price = $Rs.(100 - 12) = Rs.88$
Gain = $Rs.(88 - 1000/17) = 496/17$
Gain% = $496/17 \times 17/1000 \times 100 = 49.6\%$ Option a

16. a's 1 day's work : b's 1 day's work = 150 : 100 = 3 : 2
Let A & B's 1 day's work be $3x$ & $2x$ resply. Then C's 1 day's work = $(3x + 2x)/2 = 5x/2$
So $x = 1/100$. A's 1 day's work = $3/100$, B's 1 day's work = $1/50$, C's 1 day's work = $1/40$
(A+B+C)'s 1 day's work $(3/100 + 1/50 + 1/40) = 3/40$.
So A, B & C together can do the work in $40/3 = 13 \frac{1}{3}$ days Option a

17. let the ages of children be $x, x+3, x+6, x+9$ & $x+12$ yrs. Then $x + x+3 + x+6 + x+9 + x+12 = 50$
 $5x = 20 \Rightarrow x = 4$. So their youngest child's age 4 yrs. Option a

18. milk in 8 kg of mixture = $(85 \times 27/34)$ kg = $135/2$ kg water in mix. = $85 - 135/2 = 35/2$ kg.
Let x kg of water be added to it then $(135/2)/((35/2) + x) = 3/1 \Rightarrow 6x = 30 \quad x = 5$
So quantity of water to be added is 5 kg. Option a

19. $5!$ has one zero in the end, $10!$ has two zeros in the end and so on but $25!$ has 6 zeros
in the end. Similarly $50!$ has 12, $75!$ has 18. but $100!$ has 26 zeros. so the total no. of zeros in $175!$
(in the end) = 43. Option b

20. assume 81.500 is the nearest significant value for 81.472 then the

error $= (81.5 - 81.472) \text{ km} = 0.028$. req'd % $= ((0.028 / 81.472) * 100) \% = 0.034\%$ Option c

21. let man's 1 hr work = x , 1 woman's 1 hr work = y & 1 boy's 1 hr work = z . then $x + 3y + 4z = 1/96$..(1)
 $2x + 8z = 1/80$(2) $2x + 3y = 1/120$(3). By solving the eqn's we can get $x = 1/480$, $y = 1/720$,
 $z = 1/960$. So 5 men + 12 boys 1 hrs work $= (5/480 + 12/960) = 11/480$.. so they can do the work in
 $480/11$. i.e $43 \frac{7}{11}$ hrs. Option c

22. $(A+B+C)$'s 1 day's work $= (1/24 + 1/36 + 1/48) = 13/44$. Work done by $(A+B+C)$ in 4
days $= 13/44 * 4 = 13/11$. W.D by B in 3 days $= 1/36 * 3 = 1/12$.
Remaining work $= [1 - (13/11 + 1/12)] = 5/9$. $(A+B)$'s 1 day's work $= 1/24 + 1/36 = 5/72$. Now, $5/72$ work
is done by A&B in $(72/5 * 5/9) = 8$ days. Hence total time taken $= 4 + 3 + 8 = 15$ days. Option a

23. let the present age of the person be x yrs. Then $3*(x+3) - 3(x-3) = x$. $\Rightarrow x = 18$ Option a

24. let sourav & sachin's ages 1 year ago be $6x$ & $7x$ yrs resp. Then sourav's age 4 yrs hence
 $= (6x+1) + 4 = (6x+5)$ yrs, sachin's age 4 years hence $= (7x+1) + 4 = (7x+5)$ yrs
 $(6x+5)/(7x+5) = (7/8) \Rightarrow x = 5$. Sachin's present age $= (7x+1) = 36$ Option b

25. when $18/19 = \text{remainder } 18$, when $18^2/19 = \text{remainder } 1$. This cycle will be continue like 18,
1.....so $(18^{18})/19$ leaves remainder 1. Option a

26. the square of a natural no. is never ends into so 143642 is not the square of
the natural no. Option d

27. let the total monthly sales of companies A & B be Rs. $2x$ & Rs. $3x$ and the total monthly
expenditure by Rs. $3y$ & $4y$. given that A's profit $= 1/5$ of sales $= 2x/5$
So $2x - 3y = 1/5 * 2x - 3y = 1/5 (2x) \Rightarrow y = (8/15)x$. profit of comp. B $= 3x - 4y \Rightarrow 3x - 4(8/15)x = 13x/15$
Hence the ratio of the profit of the two companies are $(2/5)x : (13/15)x = 6 : 13$ Option a

28. let the no's be x & y . $x/y = 4/5 \Rightarrow x = (4/5)y$.
If 7 is added to each, it becomes $x + 7/y + 7 = 5/6 \Rightarrow (24/5)y + 42 = 5y + 35 \Rightarrow y = 35$
 $X = (4/5)y = 28$ Option a

29. let the amount invested be equal to the product of the market of both the stocks. i.e
 $125 * 114 = \text{Rs. } 14250$. In 6% stock we get $((125 * 114) / 125) * 6 = \text{Rs. } 684$. the same amount in 5%
stock we get $((125 * 114) / 114) * 5 = \text{Rs. } 625$. since the annual income from 6% stock is higher it is
the better investment. Option a

30. let the cost price be Rs. 100 when sold at $3/4^{\text{th}}$ of the selling price, the loss is 4%. his means
selling price in this case $= \text{Rs. } 96 = 3/4$ times the actual selling price. Hence $96 = (3/4) * \text{actual price}$
 $\Rightarrow \text{actual selling price} = (96) * (4/3) = \text{Rs. } 128$. If he sells at the actual S.P, then he makes a profit of
Rs. 28 on a cost price of Rs. 100 i.e., 28% profit. Option b

31. Length of train = 270 metres = 0.27 km.

Relative speed between the train and man = $25+2=27$ kmph.
Time taken = $(0.27/27)$ hr.
= .01 hr = **36 secs**

Option a

32. Let SA and SB be the speeds of the two buses. Then $SA - SB = 5$ kmph.
Distance is 350 km. Let T hrs be time taken by faster bus.
Then $T+2.33$ hrs is time taken by slower bus.

$SA = 350/T$ & $SB = 350/(T+2.33)$. Solving from options it is easier, and we have the solution as
25 kmph

Option c

33. Speed = $(300/18)$ m/s = $50/3$ m/s
Let the length of the platform = X meters
 $(X+300)/39=50/3$. Solve, we get $X=350$ m

Option b

34. Speed of train relative to man = $(110/6)$ m/s = $(110/6)*(18/5)$ kmph
Let speed of train = X kmph.
So relative speed = $(X+6)$ kmph
 $X+6=66$
 $X=60$ kmph

Option b

35. Dist b/w Trichi & Erode = P km
Time for X to cover P km = 1 hr
Time for Y to cover P km = $(3/2)$ hrs
Speed of X = P kmph ; speed of Y = $(2P/3)$ kmph
Let them meet Q hrs after 4 pm
 $(PQ)+(2PQ/3)=P$
 $Y=(3/5)$ hrs or in min => **36 min**

Option a

C QUESTIONS:

36. ans: (a)

reason: Its a static array

37. ans: (b) unsolved

38. ans: (d)

39. ans: (c)

reason: $c++100$ is not valid as $c=c+100$

40. ans: (a)

41. ans: (a)

42. ans: (b)

reason: can not modify constant value . It is a fixed value for entire program.

43. ans : (b)

reason: if no format specifier is given immediately after the printed as such

44. ans: (d)

reason: the scanf must have $\&x,\&y$ for $\%d$ format specifiers.

45. ans: (a) reason: In if statement, $x=6$ is assigned and not checked.

KEY FOR APTITUDE TEST 5

1.b

2.b

3.b

4.c

5.c

6.b

7.a

8.d

9.b

10.a

11.b

12.c

13.a

14.a

15.a

16.a

17.a

18. a

19.b

20.c

21.c

22.a

23.a

24.b

25.a

26.d

27.a

28.a

29.a

30.b

31.a

32.c

33.b

34.b

35.a

36.a

37.b

38.d

39.c

40.a

41.a

42.b

43.b

44.d

45.a

