

## Aptitude Questions With Answers for Time & Distance Problems

1) A train covers a distance in 50 min, if it runs at a speed of 48 kmph on an average. The speed at which the train must run to reduce the time of journey to 40 min will be.

### 1. Solution::

$$\text{Time} = 50/60 \text{ hr} = 5/6 \text{ hr}$$

$$\text{Speed} = 48 \text{ mph}$$

$$\text{distance} = S * T = 48 * 5/6 = 40 \text{ km}$$

$$\text{time} = 40/60 \text{ hr} = 2/3 \text{ hr}$$

$$\text{New speed} = 40 * 3/2 \text{ kmph} = 60 \text{ kmph}$$

2) Vikas can cover a distance in 1 hr 24 min by covering 2/3 of the distance at 4 kmph and the rest at 5 kmph. The total distance is?

### 2. Solution::

Let total distance be S

$$\text{total time} = 1 \text{ hr } 24 \text{ min}$$

$$\text{A to T} :: \text{speed} = 4 \text{ kmph}$$

$$\text{distance} = 2/3 S$$

$$\text{T to S} :: \text{speed} = 5 \text{ kmph}$$

$$\text{distance} = 1 - 2/3 S = 1/3 S$$

$$21/15 \text{ hr} = 2/3 S/4 + 1/3 S/5$$

$$84 = 14/3 S * 3$$

$$S = 84 * 3 / 14 * 3$$

$$= 6 \text{ km}$$

3) Walking at 3/4 of his usual speed, a man is late by 2 1/2 hr. The usual time is.

### 3. Solution::

$$\text{Usual speed} = S$$

$$\text{Usual time} = T$$

$$\text{Distance} = D$$

$$\text{New Speed is } 3/4 S$$

$$\text{New time is } 4/3 T$$

$$4/3 T - T = 5/2$$

$$T = 15/2 = 7 \frac{1}{2}$$

4) A man covers a distance on a scooter. Had he moved 3 kmph faster, he would have taken 40 min less. If he had moved 2 kmph slower, he would have taken 40 min more. The distance is.

**4.Solution::**

Let distance = x m  
Usual rate = y kmph  
 $x/y - x/(y+3) = 40/60$  hr  
 $2y(y+3) = 9x$  —————1  
 $x/(y-2) - x/y = 40/60$  hr  $y(y-2) = 3x$  —————2  
divide 1 & 2 equations  
by solving we get x = 40

5)Excluding stoppages,the speed of the bus is 54kmph and including stoppages,it is 45kmph.for how many min does the bus stop per hr.

**5.Solution::**

Due to stoppages,it covers 9km less.  
time taken to cover 9 km is  $[9/54 * 60]$  min = 10min

6)Two boys starting from the same place walk at a rate of 5kmph and 5.5kmph respectively.wht time will they take to be 8.5km apart, if they walk in the same direction

**6.Solution::**

The relative speed of the boys = 5.5kmph – 5kmph = 0.5 kmph  
Distance between them is 8.5 km  
Time= 8.5km / 0.5 kmph = 17 hrs

7)2 trains starting at the same time from 2 stations 200km apart and going in opposite direction cross each other at a distance of 110km from one of the stations.what is the ratio of their speeds.

**7. Solution::**

In same time ,they cover 110km & 90 km respectively  
so ratio of their speed =110:90 = 11:9

8)Two trains start from A & B and travel towards each other at speed of 50kmph and 60kmph resp. At the time of the meeting the second train has traveled 120km more than the first.the distance between them.**8. Solution::**

Let the distance traveled by the first train be x km  
then distance covered by the second train is x + 120km  
 $x/50 = x+120 / 60$   
x= 600  
so the distance between A & B is x + x + 120 = 1320 km

9) A thief steals a car at 2.30pm and drives it at 60kmph. The theft is discovered at 3pm and the owner sets off in another car at 75kmph when will he overtake the thief

**9. Solution::**

Let the thief is overtaken  $x$  hrs after 2.30pm  
distance covered by the thief in  $x$  hrs = distance covered by the owner in  $x - 1/2$  hr  
 $60x = 75 (x - 1/2)$   
 $x = 5/2$  hr  
thief is overtaken at 2.30 pm +  $2 \frac{1}{2}$  hr = 5 pm

10) In covering distance, the speed of A & B are in the ratio of 3:4. A takes 30min more than B to reach the destination. The time taken by A to reach the destination is.

**10. Solution::**

Ratio of speed = 3:4  
Ratio of time = 4:3  
let A takes  $4x$  hrs, B takes  $3x$  hrs  
then  $4x - 3x = 30/60$  hr  
 $x = 1/2$  hr  
Time taken by A to reach the destination is  $4x = 4 * 1/2 = 2$  hr

Modal Paper For Aptitude

1) The average ages of three persons is 27 years. Their ages are in the proportion of 1:3:5. What is the age in years of the youngest one among them.

Sol: Let the age of three persons be  $x$ ,  $3x$  and  $5x$

$$\rightarrow \frac{9x}{3} = 27 \rightarrow x = 9$$

2) The average of 11 numbers is 50. If the average of first 6 numbers is 49 and that of last 6 is 52. Find the 6th number.

Sol: The total sum of 11 results =  $11 * 50 = 550$

The total sum of first 6 results =  $6 * 49 = 294$

The total sum of last 6 results =  $6 * 52 = 312$

Sixth result =  $294 + 312 - 550 = 56$

3) Find L.C.M of 852 and 1491.

$$\begin{array}{r} 852 \overline{) 1491} \quad (1 \\ \underline{852} \phantom{00} \\ 639 \phantom{00} \quad (1 \\ \underline{639} \phantom{00} \\ 0 \phantom{00} \quad (3 \\ \underline{213} \phantom{00} \\ 639 \\ \underline{639} \\ 0 \end{array}$$

H.C.F of 852 and 1491 is 213

$\therefore \text{L.C.M} = 852 * 1491 / 213 = 5964$

4) The smallest number which when divided by 20, 25, 35, 40 leaves the remainder 6 When divided by 14, 19, 23 and 34 respectively is the difference between divisor and The corresponding remainder is 6.

$\therefore \text{Required number} = (\text{L.C.M of } 20, 25, 35, 40) - 6$

$$= 1400 - 6 = 1394$$

5) The least multiple of 7 which leaves a remainder 4 when divided by 6, 9, 15 and 18 is

L.C.M of 6, 9, 15 and 18 is 90.

Let  $x$  be the least multiple of 7, which when divided by 90 leaves the remainder 4.

Then  $x$  is of the form  $90k + 4$ .

Now, minimum value of  $k$  for which  $90k + 4$  is divisible by 7.

$$\therefore x = 4 * 90 + 4 = 364$$

6) Sum of three even consecutive numbers is 48, and then least number is

1) 16

2) 18

3) 20

4) 14

Sol: Let the numbers be  $2n$ ,  $2n+2$  and  $2n+4$

$$2n + (2n+2) + (2n+4) = 48$$

$$6n = 48 - 6 = 42, n = 7$$

Hence the numbers are  $\rightarrow 14, 16$  and  $18$

The least number is 14.

7) It being given that  $\sqrt{15} = 3.88$ , the best approximation to  $\sqrt{5/3}$  is

- 1) 0.43
- 2) 1.89
- 3) 1.29
- 4) 1.63

—      —      —      —      —

Sol: 3)  $x = \sqrt{5/3} = \sqrt{5 \cdot 3 / 3 \cdot 3} = \sqrt{15} / \sqrt{9} = \sqrt{15} / 3 = 3.88 / 3 = 1.29$

8) Of the two-digit numbers (those from 11 to 95, both inclusive) how many have a Second digit greater than the first digit?

- 1) 37
- 2) 38
- 3) 36
- 4) 35

Sol: 3) 12 to 19 -- > 8

23 to 29 -- > 7

34 to 39 -- > 6

45 to 49 -- > 5

56 to 59 -- > 4

67 to 69 -- > 3

78 to 79 -- > 2

$$89 \rightarrow 1$$

9) The Value of  $\sqrt{24} + 3\sqrt{64} + 4\sqrt{28}$  is

Sol:  $24^{1/2} + 43^{1/3} + 28^{1/4}$

$$\rightarrow 4 + 4 + 4 \rightarrow 12$$

10)  $3\frac{1}{4} - \frac{4}{5}$  of  $\frac{5}{6} / 4\frac{1}{3} / \frac{1}{5} - (\frac{3}{10} + 21\frac{1}{5})$  is equal to

Sol:  $13/4 - 4/5 * 5/6 / 13/3 / 1/5 - (3/10 + 106/5)$  (use BODMASRULE)

$$\rightarrow 13/4 - 4/6 / 13/3 / 1/5 - 215/10 \rightarrow 31/12 / 13/3 * 5 - 215/10$$

$$\rightarrow 31/12 / 65/3 - 43/2 \rightarrow 31/12 / 130 - 129/6 \rightarrow 31/12 / 1/6 = 31/12 * 6/1$$

$$\rightarrow 31/2 = 15\frac{1}{2}$$

1) 13 sheep and 9 pigs were bought for Rs. 1291.85. If the average price of a sheep be Rs. 74. What is the average price of a pig?  
<https://recruitmentindia.in/previous-papers/>

Sol: Average price of a sheep = Rs. 74

: . Total price of 13 sheep

$$= (74 * 13) = \text{Rs. } 962$$

But, total price of 13 sheeps and 9 pigs

$$= \text{Rs. } 1291.85$$

Total price of 9 pigs

$$= \text{Rs. } (1291.85 - 962) = \text{Rs. } 329.85$$

Hence, average price of a pig

$$= (329.85/9) = \text{Rs. } 36.65$$

12) A batsman in his 18th innings makes a score of 150 runs and there by increasing his Average by 6. Find his average after 18th innings.

Sol: Let the average for 17 innings is  $x$  runs

$$\text{Total runs in 17 innings} = 17x$$

$$\text{Total runs in 18 innings} = 17x + 150$$

$$\text{Average of 18 innings} = 17x + 150/18$$

$$\therefore 17x + 150/18 = x + 6 \rightarrow x = 42$$

$$\text{Thus, average after 18 innings} = 42$$

13) . Find the H.C.F of 777 and 1147.

$$777 \overline{) 1147} \quad (1$$

$$777$$



$$370) 777 \text{ (2)}$$

$$740$$

$$37) 370 \text{ (10)}$$

$$370$$

$$0$$

$\therefore$  H.C.F of 777 and 1147 is 37.

14) The L.C.M of two numbers is 2310 and their H.C.F is 30. If one number is 210 the Other is

The other number

$$= \text{L.C.M} * \text{H.C.F} / \text{given number}$$

$$= 2310 * 30 / 210 = 330$$

15) The average of 50 numbers is 38. If two numbers namely 45 and 55 are discarded, The average of remaining numbers is?

$$\text{Total of 50 numbers} = 50 * 38 = 1900$$

$$\text{Average of 48 numbers} = 1900 - (45 + 55) / 48$$

$$= 1800 / 48 = 37.5$$

16) Divide 50 in two parts so that the sum of reciprocals is  $(1/12)$ , the numbers are

- 1) 20,30
- 2) 24,36
- 3) 28,22
- 4) 36,14

Sol: 1) Let the numbers be  $x$  and  $y$  then

$$X+y = 50. \dots\dots\dots(i)$$

$$1/x + 1/y = 12$$

$$1/x + 1/50-x = 1/12..From (i) y = 50 - x$$

$$--> 50-x+x/x(50-x) = 1/12$$

$$--> x^2-50x+600 = 0$$

$$--> (x-30) (x-20) = 0$$

&am



Aptitude Material

1) Five years ago the average age of a family of 3 members was 27 years. A child has Been born, due to which the average age of the family is 25 years today. What is the Present age of the child?

Sol: Average age of the family of 3 members

5 years ago = 27 years

Sum of the ages of the 3 members now

$$= (27 + 5) * 3 = 96 \text{ years}$$

Average age of the family of 4 members now

$$= 25 \text{ years}$$

Sum of the ages of the 4 numbers now

$$= 25 * 4 = 100 \text{ years}$$

$$\text{Age of child} = 100 - 96 = 4 \text{ years}$$

2) In a class of 20 students in an examination in Mathematics 2 students scored 100 Marks each, 3 get zero each and the average of the rest was 40. What is the average Of the whole class?

Sol: Total marks obtained by a class of 20 students

$$= 2 * 100 + 3 * 0 + 15 * 40$$

$$= 200 + 600 = 800$$

$$\text{: Average marks of whole class} = 800/20 = 40$$

3). The greatest number, which can divide 432, 534 and 398 leaving the same remainder 7 in each, is

Required number is the H.C.F of

$$(432-7), (534-7) \text{ and } (398-7)$$

i.e., H.C.F. of 425, 527, 391

$$\text{Required number} = 17$$

4) The sum of two numbers is 216 and their H.C.F is 27. The numbers are

. Let the numbers be  $27a$  and  $27b$

$$\text{Then } 27a + 27b = 216$$

$$a+b = 8$$

Value of co-primes  $a$  and  $b$  are  $(1,7)$   $(3,5)$

: . Numbers are  $(27*1, 27*7) = (27, 189)$

5) The greatest number of 4 digits which is divisible by each one of the number 12, 18, 21 and 28 is

Greatest number of 4 digits is 9999

$$\text{L.C.M of } 12, 18, 21, 28 = 252$$

On dividing 9999 by 252, the remainder is 171

: . Required number is  $(9999-171) = 9828$

6) Four prime numbers are arranged in ascending order according to their magnitude. Product of first three is 385 and the product of last three is 1001. The greatest number is.

1) 11

2) 13

3) 17

4) 19

Sol: 2) 385) 1001(2

770

231) 385(1

231 (1

154)231(1

154

77) 154(2

154

0

Hence the product of the middle terms = 77

Greatest prime number =  $1001 / 77 = 13$ .

7) If the square root of 55625 is 75, then

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$\sqrt{5625} + \sqrt{56.25} + \sqrt{0.5625}$  is equal to

- 1) 82.25
- 2) 83.25
- 3) 80.25
- 4) 79.25

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Sol:  $2) \sqrt{5625} = 75; \sqrt{56.25} = 7.5; \sqrt{.5625} = .75$

-- >  $75+7.5+0.75 = 83.25$

8) Which of the following integers has most number of divisors?

1) 176

2) 182

3) 99

4) 101

Sol: 2)  $176 = 2, 4, 8, 11, 16, 22, 44, 88$

$182 = 2, 7, 13, 14, 26, 91$

$99 = 3, 9, 11, 33$

$101 = 101$

9) 10) A boy was asked to find the value of  $\frac{3}{8}$  of a sum of money. Instead of multiplying The sum by  $\frac{3}{8}$  he divided it by  $\frac{3}{8}$  and then his answer exceeded by Rs. 55. Find the Correct be x.

Sol: Let amount be x

$$\frac{8}{3}x - \frac{3}{8}x = 55$$

$$\rightarrow 64x - 9x/24 = 55 \rightarrow 55x/24 = 55$$

$$\rightarrow x = 24 \cdot 55/55 = 24$$

$$\therefore \frac{3}{8} \text{ of } x = \frac{3}{8} * 24 = \text{Rs.}9$$

10) A boy was asked to find the value of  $\frac{7}{12}$  of a sum of money. Instead of multiplying The sum by  $\frac{7}{12}$  he divided it by  $\frac{7}{12}$  and thus his answer exceeded the correct Answer By Rs.95. Find the correct answer.

Sol: Let sum = Rs. K

$$\therefore \frac{12}{7} k - \frac{7k}{12} = 95$$

$$\rightarrow 144k - 49k/84 = 95 \rightarrow k = 84$$

$$\therefore \frac{7}{12} k \rightarrow \frac{7}{12} * 84 = \text{Rs.} 49$$

11) In a boat 25 persons were sitting. Their average weight increased one kilogram when One man goes and a new man comes in. The weight of the new man is 70kgs. Find the Weight of the man who is going.

Sol: Weight increased per person is 1 kg.

Total increase in weight = 25 kgs

Weight of new man is 70 kgs,

(Which means his weight is 25 kgs heavier)

The weight of the old man was  $70 - 25 = 45$  kgs

13) What is the greatest possible length that can be used to measure exactly the following Lengths 7m, 3m 85cm, 12m 95cm?

The length to be measured is

700cm, 385cm, 1295cm.

The required length in cm is the H.C.F of 700, 385, and 1295, which is 35 cm.

14) The product of two-digit number is 2160 and their H.C.F is 12. The numbers are

Let the number are  $12a$  and  $12b$

Then  $12a * 12b = 2160$

$$ab = 15$$

Value of co-primes  $a$  and  $b$  are  $(1, 15)$   $(3, 5)$

$\therefore$  The two digit numbers are  $(3*12, 5*12)$

$$= (36, 60)$$

15) The least number of 6 digits which it exactly divisible by 12, 15 and 18 is

Least number of 6 digits is 100000

L.C.M of 12, 15, 18, is 180.

On dividing 100000 by 180, the remainder is 100

$$\therefore \text{Required number} = 100000 + (180-100) = 100080$$

16) Two third of three fifth of one fourth of a number is 24. What is 40% of that number?



- 1) 96
- 2) 72
- 3) 120
- 4) 156

Sol: 1) let the number be x, then

$$X \text{ of } \frac{2}{3} \text{ of } \frac{3}{5} \text{ of } \frac{1}{4} = 24$$

$$X * \frac{2}{3} * \frac{3}{5} * \frac{1}{4} = 24, x = 240.$$

$$\text{Hence } 40\% \text{ of } 240 = \frac{40}{100} * 240 = 96$$

17) Which of the following has the fractions in asce



Model paper 3

1.A coffee shop blends 2 kinds of coffee,putting in 2 parts of a 33p. a gm. grade to 1 part of a 24p. a gm.If the mixture is changed to 1 part of the 33p. a gm. to 2 parts of the less expensive grade,how much will the shop save in blending 100 gms.

- a) Rs.90
- b) Rs.1.00
- c) Rs.3.00
- d) Rs.8.00

Ans.C

2. There are 200 questions on a 3 hr examination. Among these questions are 50 Mathematics problems. It is suggested that twice as much time be spent on each maths problem as for each other question. How many minutes should be spent on Mathematics problems

- a) 36
- b) 72
- c) 60
- d) 100

Ans.B

3. In a group of 15, 7 have studied Latin, 8 have studied Greek, and 3 have not Studied either. How many of these studied both Latin and Greek

- a) 0
- b) 3
- c) 4
- d) 5

Ans.B

4.If  $13 = 13w/(1-w)$ , then  $(2w)^2 =$

- a)  $1/4$
- b)  $1/2$
- c)  $1$
- d)  $2$

Ans.C

5.If  $a$  and  $b$  are positive integers and  $(a-b)/3.5 = 4/7$ , then

- a)  $b < a$
- b)  $b > a$
- c)  $b = a$
- d)  $b \geq a$

Ans. A

6.In June a baseball team that played 60 games had won 30% of its game played.  
After a phenomenal winning streak this team raised its average to 50% .How many  
games must the team have won in a row to attain this average?

- a) 12
- b) 20
- c) 24
- d) 30

Ans. C

7.M men agree to purchase a gift for Rs. D. If three men drop out how much more  
Will each have to contribute towards the purchase of the gift

- a)  $D/(M-3)$
- b)  $MD/3$
- c)  $M/(D-3)$
- d)  $3D/(M^2-3M)$

Ans. D

8.A company contracts to paint 3 houses. Mr.Brown can paint a house in 6 days  
while Mr.Black would take 8 days and Mr.Blue 12 days. After 8 days Mr.Brown  
goes on vacation and Mr. Black begins to work for a period of 6 days.

How many days will it take Mr.Blue to complete the contract?

- a) 7
- b) 8
- c) 11
- d) 12

Ans.C

9. 2 hours after a freight train leaves Delhi a passenger train leaves the same station traveling in the same direction at an average speed of 16 km/hr. After traveling 4 hrs the passenger train overtakes the freight train. The average speed of the freight train Was?

- a) 30
- b) 40
- c) 58
- d) 60

Ans. B

10.If  $9x-3y=12$  and  $3x-5y=7$  then  $6x-2y = ?$

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

e)

Ans. D

11. In a class composed of  $x$  girls and  $y$  boys what part of the class is composed of girls

a)  $y/(x + y)$

b)  $x/xy$

c)  $x/(x + y)$

d)  $y/xy$

Ans. C

12. What is the maximum number of half-pint bottles of cream that can be filled with a 4-gallon can of cream (2 pt.=1 qt. and 4 qt.=1 gal)

a) 16

b) 24

c) 30

d) 64

Ans. D

13. If the operation,  $\wedge$  is defined by the equation  $x \wedge y = 2x + y$ , what is the value of  $a$

$$\text{in } 2 \wedge a = a \wedge 3$$

- a) 0
- b) 1
- c) -1
- d) 4

Ans. B

14. 2 hours after a freight train leaves Delhi a passenger train leaves the same station travelling in the same direction at an average speed of 16 km/hr. After travelling 4 hrs the passenger train overtakes the freight train. The average speed of the freight train was?

- (a). 30
- (b). 40
- (c). 58
- (d). 60

Ans. B

15. If a boat is moving in upstream with velocity of 14 km/hr and goes downstream with a velocity of 40 km/hr, then what is the speed of the stream?

- (a) 13 km/hr
- (b) 26 km/hr
- (c) 34 km/hr
- (d) none of these

Ans. A

16. Two trains move in the same direction at 50 kmph and 32 kmph respectively. A man in the slower train observes the 15 seconds elapse before the faster train completely passes by him. What is the length of faster train ?

- (a) 100m

- (b) 75m
- (c) 120m
- (d) 50m

Ans.B

17. I drove 60 km at 30 kmph and then an additional 60 km at 50 kmph. Compute my average speed over my 120 km.

- (a) 40
- (b)  $37 \frac{1}{2}$
- (c)  $25 \frac{1}{2}$
- (d) 50

Ans.B

18. If a car starts from A towards B with some velocity due to some problem in the engine after travelling 30km. If the car goes with  $\frac{4}{5}$  th of its actual velocity the car reaches B 45min later to the actual time. If the car engine fails after travelling 45km, the car reaches the destination B 36min late to the actual time, what is the initial velocity of car and what is the distance between A and B in km

- (a) 40 & 100
- (b) 10 & 150
- (c) 20 & 130
- (d) 50

Ans.C

19. Two trains are travelling at equilateral. Train A is travelling in the direction of earth's spin. Other train B is travelling in opposite direction of earth's spin. Which train's wheels will wear first? and why?

- (a) Train B
- (c) none of these
- (d) Train A

Ans. A

20. A person, who decided to go to weekend trip should not exceed 8 hours driving in a day. Average speed of forward journey is 40 m/h. Due to traffic in Sundays, the return journey average speed is 30



m/h. How far he can select a picnic spot?

- a) 120 miles
- b) Between 120 and 140 miles
- c) 160 miles

Ans. A

21. A person was fined for exceeding the speed limit by 10mph. Another person was also fined for exceeding the same speed limit by twice the same. If the second person was traveling at a speed of 35 mph, find the speed limit.

- a) 20 mph
- b) 15 mph
- c) 18 mph

Ans. A

22. A bus started from bus stand at 8.00am, and after 30 minutes staying at destination, it returned back to the bus stand. The destination is 27 miles from the bus stand. The speed of the bus is 18mph. In return journey bus travels with 50% fast speed. At what time it returns to the bus stand?

- (a) 10:30 am
- (b) 10.00 am
- (c) 11.00 am
- (d) 11.30 am

Ans: C



## Model Paper 2

1. Divide 45 into four parts such that when 2 is added to the first part, 2 is subtracted from the second part, 2 is multiplied by the third part and the fourth part is divided by two, all result in the same number.

- (a) 8, 12, 5, 20
- (b) 6, 10, 15, 11
- (c) 2, 8, 14, 9
- (d) none of these

Correct Answer - c

2. What is the sum of the first 25 natural odd numbers?

- (a) 225
- (b) 125

- (c)525
- (d)625

Correct Answer - d

3. Find the nth number in the series is 1, -3, 5, -7

- (a)0
- (b)(0)\*(n-1)
- (c)(-1)\*(2n-1)
- (d)infinite

Correct Answer - c

4. How many rational numbers are there between 0 & 5

- (a)2
- (b)1
- (c)3
- (d)infinite

Correct Answer - d

5. A certain number of bullets were shared by 3 people equally. Each of them fired 4 bullets and the sum of the remaining bullets was equal to the initial share each had got. What was the initial number of bullets?

- (a)20
- (b)18
- (c)16
- (d)14

Correct Answer - b

6. Which of the following are prime numbers

- (a) 119
- (b) 115
- (c) 127
- (d) none

Correct Answer - c

7). The sum of any seven consecutive numbers is divisible by

- a) 2
- b) 7
- c) 3

d) 11

Correct Answer - b

8)  $0 < x < 1$  which is greater

- (a)  $1/x^2$
- (b)  $1/x$
- (c)  $x$
- (d)  $x^2$

Correct Answer - a

9). If  $13 = 13w/(1-w)$ , then  $(2w)^2 =$

- (a)  $1/4$
- (b)  $1/2$
- (c) 1
- (d) 2

Correct Answer - c

10. 50 is divided into 2 parts such that the sum of their reciprocals is  $1/12$ . Find the 2 parts.

- (a) 20,30
- (b) 24,26
- (c) 38,12
- (d) 40,10

Correct Answer - b

11. A man goes from city A to city B situated 60 kms apart by a boat. His onward journey was with the stream while the return journey was an upstream journey. It took him four and half hours to complete the round trip. If the speed of the stream is 10 km/hr, how long did it take him to complete the onward journey?

- (1) 3 hours
- (2) 3.5 hours
- (3) 2.25 hours
- (4) 1.5 hours

Correct Answer - (4)

12. An express train traveling at 72 km/hr speed crosses a goods train traveling at 45 km/hr speed in the opposite direction in half a minute. Alternatively, if the express train were to overtake the goods train, how long will it take to accomplish the task. Assume that the trains continue to travel at the same respective speeds as mentioned in case 1.

- (1) Cannot be determined
- (2) 30 seconds

- (3) 150 seconds
- (4) 130 seconds

Correct Answer - (4)

13. Train A traveling at 60 km/hr leaves Mumbai for Delhi at 6 P.M. Train B traveling at 90 km/hr also leaves Mumbai for Delhi at 9 P.M. Train C leaves Delhi for Mumbai at 9 P.M. If all three trains meet at the same time between Mumbai and Delhi, what is the speed of Train C if the distance between Delhi and Mumbai is 1260 kms?

- (1) 60 km/hr
- (2) 90 km/hr
- (3) 120 km/hr
- (4) 135 km/hr

Correct Answer - (3)

14. A man moves from A to B at the rate of 4 km/hr. Had he moved at the rate of 3.67 km/hr, he would have taken 3 hours more to reach the destination. What is the distance between A and B?

- (1) 33 kms
- (2) 132 kms
- (3) 36 kms
- (4) 144 kms

Correct Answer - (2)

15. A ship develops a leak 12 km from the shore. Despite the leak, the ship is able to move towards the shore at a speed of 8 km/hr. However, the ship can stay afloat only for 20 minutes. If a rescue vessel were to leave from the shore towards the ship, and it takes 4 minutes to evacuate the crew and passengers of the ship, what should be the minimum speed of the rescue vessel in order to be able to successfully rescue the people aboard the ship?

- (1) 53 km/hr
- (2) 37 km/hr
- (3) 28 km/hr
- (4) 44 km/hr

Correct Answer - (2)

16. A man driving his bike at 24 kmph reaches his office 5 minutes late. Had he driven 25% faster on an average he would have reached 4 minutes earlier than the scheduled time. How far is his office?

- (1) 24 km
- (2) 72 km
- (3) 18 km
- (4) Data Insufficient

Correct Answer - (3)

17. When an object is dropped, the number of feet  $N$  that it falls is given by the formula  $N = \frac{1}{2}gt^2$  where  $t$  is the time in seconds from the time it was dropped and  $g$  is 32.2. If it takes 5 seconds for the object to reach the ground, how many feet does it fall during the last 2 seconds?

- (1) 64.4
- (2) 96.6
- (3) 161.0
- (4) 257.6

Correct Answer - (4)

18. If the wheel of a bicycle makes 560 revolutions in travelling 1.1 km, what is its radius?

- (1) 31.25 cm
- (2) 37.75 cm
- (3) 35.15 cm
- (4) 11.25 cm

Correct Answer - (1)

19. Rajesh traveled from city A to city B covering as much distance in the second part as he did in the first part of this journey. His speed during the second part was twice as that of the speed during the first part of the journey. What is his average speed of journey during the entire travel?

- (1) His average speed is the harmonic mean of the individual speeds for the two parts.
- (2) His average speed is the arithmetic mean of the individual speeds for the two parts.
- (3) His average speed is the geometric mean of the individual speeds for the two parts.
- (4) Cannot be determined.

Correct Answer - (2)

20. Two boys begin together to write out a booklet containing 535 lines. The first boy starts with the first line, writing at the rate of 100 lines an hour; and the second starts with the last line then writes line 534 and so on, backward proceeding at the rate of 50 lines an hour. At what line will they meet?

- (1) 356
- (2) 277
- (3) 357
- (4) 267

Correct Answer - (3)

#### Aptitude Questions With Answers for Time & Distance Problems

1)A train covers a distance in 50 min ,if it runs at a speed of 48kmph on an average.The speed at which the train must run to reduce the time of journey to 40min will be.

2)Vikas can cover a distance in 1hr 24min by covering 2/3 of

the distance at 4 kmph and the rest at 5kmph.the total distance is?

3)walking at  $\frac{3}{4}$  of his usual speed ,a man is late by  $2\frac{1}{2}$  hr. the usual time is.

4)A man covers a distance on scooter .had he moved 3kmph faster he would have taken 40 min less. If he had moved 2kmph slower he would have taken 40min more.the distance is.

5)Excluding stoppages,the speed of the bus is 54kmph and including stoppages,it is 45kmph.for how many min does the bus stop per hr.

6)Two boys starting from the same place walk at a rate of 5kmph and 5.5kmph respectively.wht time will they take to be 8.5km apart, if they walk in the same direction

7)2 trains starting at the same time from 2 stations 200km apart and going in opposite direction cross each other ata distance of 110km from one of the stations.what is the ratio of their speeds.

8)Two trains start from A & B and travel towards each other at speed of 50kmph and 60kmph resp. At the time of the meeting the second train has traveled 120km more than the first.the distance between them.

9)A thief steals a ca r at 2.30pm and drives it at 60kmph.the theft is discovered at 3pm and the owner sets off in another car at 75kmph when will he overtake the thief

10)In covering distance,the speed of A & B are in the ratio of 3:4.A takes 30min more than B to reach the destion.The time taken by A to reach the destinstion is.

Answers :

1. Solution::

Time= $\frac{50}{60}$  hr= $\frac{5}{6}$ hr

Speed=48mph

distance= $S*T=48*\frac{5}{6}=40$ km

time= $\frac{40}{60}$ hr= $\frac{2}{3}$ hr

New speed =  $40 * \frac{3}{2}$  kmph= 60kmph

2. Solution::

Let total distance be S  
total time=1hr24min  
A to T :: speed=4kmph  
distance= $\frac{2}{3}S$   
T to S :: speed=5km  
distance= $1-\frac{2}{3}S=\frac{1}{3}S$   
 $\frac{21}{15}$  hr= $\frac{2}{3} \frac{S}{4} + \frac{1}{3} \frac{S}{5}$   
 $84=14/3S*3$   
 $S=84*3/14*3$   
= 6km

3. Solution::

Usual speed = S

Usual time = T

Distance = D

New Speed is  $\frac{3}{4} S$

New time is  $\frac{4}{3} T$

$\frac{4}{3} T - T = \frac{5}{2}$

$T = \frac{15}{2} = 7 \frac{1}{2}$

4.Solution::

Let distance = x m

Usual rate = y kmph

$\frac{x}{y} - \frac{x}{y+3} = \frac{40}{60}$  hr

$2y(y+3) = 9x$  —————1

$\frac{x}{y-2} - \frac{x}{y} = \frac{40}{60}$  hr  $y(y-2) = 3x$  —————2

divide 1 & 2 equations

by solving we get x = 40

5.Solution::

Due to stoppages,it covers 9km less.

time taken to cover 9 km is  $[\frac{9}{54} * 60]$  min = 10min

6.Solution::

The relative speed of the boys = 5.5kmph – 5kmph = 0.5 kmph

Distance between them is 8.5 km

Time= 8.5km / 0.5 kmph = 17 hrs

7. Solution::

In same time ,they cover 110km & 90 km respectively

so ratio of their speed =110:90 = 11:9

8. Solution::

Let the distance traveled by the first train be  $x$  km  
then distance covered by the second train is  $x + 120$  km  
 $x/50 = x+120 / 60$   
 $x = 600$   
so the distance between A & B is  $x + x + 120 = 1320$  km

9. Solution::

Let the thief is overtaken  $x$  hrs after 2.30pm  
distance covered by the thief in  $x$  hrs = distance covered by  
the owner in  $x-1/2$  hr  
 $60x = 75 (x- 1/2)$   
 $x = 5/2$  hr  
thief is overtaken at 2.30 pm + 2 1/2 hr = 5 pm

10. Solution::

Ratio of speed = 3:4  
Ratio of time = 4:3  
let A takes  $4x$  hrs, B takes  $3x$  hrs  
then  $4x-3x = 30/60$  hr  
 $x = 1/2$  hr  
Time taken by A to reach the destination is  $4x = 4 * 1/2 = 2$  hr

#### Aptitude Question And Answer For Fresher

1) In the first Test match between India and South Africa, South Africa were bowled out for 84 runs in their first innings which is their lowest score against India . what is their lowest ever score in a Test match?

- 1) 30
- 2) 35
- 3) 43
- 4) 47

2) Adam Gilchrist has become the wicket keeper with most test centuries. How many centuries.



How many centuries has he scored so far?

- 1) 15
- 2) 17
- 3) 18
- 4) 20

3) Brian Lara recently joined the club of batsmen with more than 10,000 run in ODIs. How many players are this group ?

- 1) 3
- 2) 4
- 3) 5
- 4) 6

4) Which women Indian athlete who won a silver medal at the Asian Games failed to clear a gender test recently?

- 1) Santhi Soudarajan
- 2) Soma Biswas
- 3) PT Usha
- 4) None of these

5) Thongchai Jaidee won the Volvo masters Asia Golf tournament held in Bangkok. He is from which country?

- 1) Thailand
- 2) Malaysia
- 3) North Korea
- 4) Japan

6) Who is the world's youngest grandmaster?

- 1) Rupam Kapoor
- 2) Sohail Khan
- 3) Parimarjan Negi
- 4) Sontosh Sinha

7) Which of the following clubs won the club world cup Football Trophy recently?

- 1) Barcelona
- 2) International
- 3) A C Milan
- 4) Chelsea

8) India recently won a test match in south Africa which of the following facts regarding it are correct?

- a) It was India's first victory in 10 test matches in South Africa

- b) India won the match by 123 runs
- c) The match was played at Johannesburg
- d) S Sreesanth was declared man of the match.

- 1) a , b and c
- 2) b , c and d
- 3) a , b and d
- 4) All are correct

9) Sri Lanka recently drew a test series with which of the following teams?

- 1) India
- 2) New Zealand
- 3) Pakistan
- 4) South Africa

10) Which team was declared as the soccer team of the year 2006 by FIFA recently?

- 1) Brazil
- 2) Italy
- 3) Germany
- 4) France

11) The German luxury car maker Audi is planning to use the facilities of which automobiles company to assemble its luxury cars in India?

- 1) Skoda
- 2) Hyundai
- 3) Ford
- 4) Toyota

12) A new car model named Teana is going to be launched in-India by the automobile company of which country?

- 5) Japan
- 6) China
- 7) Germany
- 8) Israel

13) Which watch manufacturing company is now going to make motor cycles?

- 9) HMT
- 10) Titan
- 11) Maxima
- 12) Ajanta

14) Which of the following has been named as the two wheeler design of the year?

13) Honda Unicorn

14) Bajaj Caliber

15) TVS star city

16) Kinetic Blaze

15) The India scientists have teamed up with the scientists of which country to find out the actual source of Brahmaputra and Sutlej?

17) Japan

18) Pakistan

19) China

20) Tibet

Ans:

1) 2    2) 1    3) 2    4) 3    5) 1

6) 1    7) 3    8) 2    9) 4    10) 2

11) 4    12) 1    13) 1    14) 4    15) 3

#### Aptitude interview Questions And Answers

1) Which one of the following Indian birds is highly endangered species?

- 1) Golden Oriole
- 2) Great Indian Bustard
- 3) Indian Fantail Pigeon
- 4) Indian Sunbird

2) The headquarters of the Green peace International are located at

- 1) Amsterdam
- 2) Canberra
- 3) Ottawa
- 4) Nagasaki

3) Rourkela steel plant gets its supplies of iron ore from

- 1) Keonijhar
- 2) Mayurbhanj
- 3) Delli-Rajhara
- 4) Kamangundi

4) On which date Australian leg spinner dismissed Andrew Strauss of England in the pick his 700th test wicket?

- 1) December 21,2006
- 2) December 18 ,2006

3) December 24, 2006

4) December 26 , 2006

5) Under whose patronage was the Kandariya Mahadeo Temple at Khajuraho built?

1) Solankis

2) Rashtrakutas

3) Tomaras

4) Chandellas

6) During the period of which of the following was 'Panchtrantra' written?

1) Nandas

2) Mauryas

3) Guptas

4) Sungas

7) Who wrote the book called Kitabi- Nauras?

1) Amir Khusro

2) Badauni

3) Ibrahim Adil Shah II

4) Ala-ud-din Bahmani

8) Which one of the following places has a nuclear power station?

- 1) Koradi
- 2) Rawatbhata
- 3) Ramagundam
- 4) Talcher

9) Where is the ocean current called the 'Gulf Stream' found?

- 1) Atlantic Ocean
- 2) Indian Ocean
- 3) North pacific Ocean
- 4) South pacific Ocean

10) Which one of the following countries is not a permanent member of the UN Security Council?

- 1) China
- 2) France
- 3) Japan
- 4) Russia

11) A person climbing a hill bends forward in order to

- 1) avoid slipping



- 2) increase speed
- 3) reduce fatigue
- 4) increase stability

12) The period of revolution of a geostationary satellite is

- 1) 24 hours
- 2) 30 days
- 3) 365 days
- 4) changing continuously

13) If an apple is released from an orbiting spaceship. It will

- 1) fall towards the earth
- 2) move along with the spaceship at the same speed
- 3) move at a higher speed
- 4) move at a lower speed

14) The density of sea water increases as

- 1) depth and salinity decrease
- 2) depth decrease and salinity increases
- 3) depth increase and salinity decreases
- 4) depth and salinity increase

15) When a ship enters a sea from a river

- 1) it rises a little
- 2) it sinks little
- 3) it remains at the same level
- 4) it rises or sinks depending on the material it is made of

Ans :

- 1) 2   2) 1   3) 3   4) 4   5) 4  
6) 3   7) 3   8) 2   9) 1   10) 3  
11) 4   12) 1   13) 2   14) 4   15) 1

#### Aptitude Question And Answer For Job Seekers

1) Where was the united Nations charter signed in 1945 at a conference?

- 1) Geneva
- 2) New York
- 3) San Francisco
- 4) Paris

2) In which one of the following countries did the Industrial Revolution take place first?

- 1) France
- 2) Russia
- 3) Japan
- 4) Great Britain

3) Which among the following is referred to as the Montagu Chelmsford Reforms?

- 1) Indian Council Act, 1909
- 2) Government of India Act , 1919
- 3) Rowlatt Act
- 4) Government of India Act, 1935

4) On December 21 , 2006 the Union Cabinet approved the sale of Government's remaining stake in Maruti Udyog Ltd at present is

- 1) 10.27 per cent
- 2) 22.27 per cent
- 3) 12.72 per cent
- 4) 14.67 per cent

5) When fine sand is carried by wind and deposited as windborne sedimentary rock, it is called

- 1) Loess
- 2) Dyke

3) Shale

4) Sill

6) From north to south, which one of the following is the correct sequence of the given hills?

1) Kaimur Hills-Mahadeo Hills – Satmala Hills

2) Mahadeo Hills-Kaimur Hills-Satmala Hills

3) Kaimur Hills –Satmala Hills-Mahadeo Hills

4) Mahadeo Hills-Satmala Hills-Kaimur Hills

7) According to Census 2001, which one of the following number of females to every 1000 males in India?

1) 875

2) 900

3) 930

4) 960

8) Which one of the following statements is correct?

1) Gypsum is a sedimentary rock

2) Deccan traps of peninsular India are formed of granite

3) Lacoliths are the largest intrusive igneous rock bodies

4) In India, gneiss is found only in the Himalayan region

9) Who among the following Mughal rulers granted the English Company Diwani over Bengal, Bihar and Orissa by Treaty of Aliahabad?

- 1) Ahmad Shah
- 2) Alamgir II
- 3) Shah Alam II
- 4) Akbar Shah II

10) During the Indian Freedom struggle, what accusation was made against Master Amir Chand, Awadh Bihari, Bal Mukund and Basant Kumar Biswas?

- 1) Assassination of the commissioner of Poona
- 2) Throwing a bomb on viceroy's procession in Delhi
- 3) Attempt to shoot the Governor of Punjab
- 4) Looting an armoury in Bengal

11) What is the subject of the 73rd Amendment Act of the Constitution of India?

- 1) Defection by the Members of parliament and Members of Legislative Assemblies from their political parties
- 2) Free and compulsory education for the children in the age group 6-14 years
- 3) Strong panchayati Raj Institutions in the country
- 4) Protection of wildlife

12) Ghataprabha is a tributary of which one of the following rivers?

- 1) Ganga
- 2) Indus
- 3) Godavari
- 4) Krishna

13) When the speed of a body is doubled. Its kinetic energy becomes

- 1) double
- 2) half
- 3) quadruple
- 4) one-fourth

14) Winding a watch is actually the process of storing

- 1) electrical energy
- 2) pressure energy
- 3) kinetic energy
- 4) potential energy

15) Conservation of energy means that

- 1) energy can be created as well as destroyed

- 2) energy can be created but not destroyed
- 3) energy cannot be created but can be destroyed
- 4) energy can neither be created nor destroyed

Ans:

- 1) 3    2) 4    3) 2    4) 1    5) 1  
6) 1    7) 3    8) 1    9) 3    10) 2  
11) 3    12) 4    13) 3    14) 4    15) 4



TCS Model Question Paper

#### VERBAL SECTION

Directions for questions 1-15: Find the synonyms of the following words

1. Merry

Ans. Gay, Happy

2. Alienate

Ans. Estrange

3. Solicit

Ans. To request

4. Heap

Ans. To pile

5. Cargo

Ans. Freight

6. Momentary

Ans. Transient

7. Volume

Ans. Quantity

8. Veer

Ans. Diverge

9. Dispel

Ans. Dissipate

10. Admonish

Ans. Cautious

11. Meager

Ans. Scanty

12. Latitude

Ans. Scope

13. Latent

Ans. Potential

14. Covet

Ans. Crave

15. Discretion

Ans. Prudence

#### QUANTITATIVE SECTION

1. If two pencils cost 8 cents, then how much do 5 pencils cost?

Ans. 20 cents

2. Some work is done by two people in 24 minutes. One of them can do this work alone in 40 minutes. How much time does the second person take to do the same work?



Ans. 60 minutes

3. A car is filled with four and half gallons of fuel for a round trip. If the amount of fuel taken while going is  $\frac{1}{4}$  more than the amount taken for coming, what is the amount of fuel consumed while coming back?

Ans. 2 gallons

4. The lowest temperature in the night in a city A is  $\frac{1}{3}$  more than  $\frac{1}{2}$  the highest during the day. Sum of the lowest temperature and the highest temperature is 100 degrees. Then what is the low temp?

Ans. 40 degrees

5. Javagal, who decided to go to weekend trip should not exceed 8 hours driving in a day. The average speed of forward journey is 40 miles/hr. Due to traffic on Sundays; the return journey's average speed is 30 m/h. How far he can select a picnic spot?

a) 120 miles

b) between 120 and 140 miles

c) 160 miles

Ans. 120 miles

6. A salesperson by mistake multiplied a number and got the answer as 3, instead of dividing the number by 3. What is the answer he should have actually got?

Ans. 3

7. A building with height D shadow up to G. What is the height of a neighboring building with a shadow of C feet?

Ans.  $(C \cdot D) / G$

8. A person was fined for exceeding the speed limit by 10 mph. Another person was also fined for exceeding the same speed limit by twice the same. If the second person was travelling at a speed of 35 mph, find the speed limit.

Ans. 15 mph

9. A bus started from bus stand at 8.00am, and after staying for 30 minutes at a destination, it returned back to the bus stand. The destination is 27 miles from the bus stand. The speed of the bus is 18mph. During the return journey bus travels with 50% faster speed. At what time does it return to the bus stand?

Ans. 11.00 am

10. In a mixture, R is 2 parts and S is 1 part. In order to make S to 25% of the mixture, how much of R

is to be added?

Ans. One part of R

11. Wind flows 160 miles in 330 min, for traveling 80 miles how much time does it require?

Ans. 2 hrs 45 mins

12. With a  $\frac{4}{5}$  full tank a vehicle can travel 12 miles, how far can it travel with a  $\frac{1}{3}$  full tank

Ans. 5 miles

13. There are two trees in a lawn. One grows at a rate  $\frac{3}{5}$  of the other in 4 years. If the total growth of trees is 8 ft. What is the height of the smaller tree after 2 years?

Ans.  $1\frac{1}{2}$  feet

14. Refer to the figure below. A ship started from P and moves at a speed of I miles per hour and another ship starts from L and moving with H miles per hour simultaneously. Where do the two ships meet?

||---g---||---h---||---i---||---j---||---k---||---l---||

P G H I J K L are the various stops in between denoted by || . The values g, h, i, j, k, l denote the distance between the ports.

Ans. between I and J, closer to J

15. If A is traveling at 72 km per hour on a highway. B is traveling at a speed of 25 meters per second on a highway. What is the difference in their speeds in m/sec?

Ans. 1 m/sec

### CRITICAL REASONING SECTION

The critical reasoning section consists of some passages followed by 4 to 7 questions per passage. The questions are such that they require ability to read fast and comprehend. The questions asked in this section have three choices TRUE, FALSE, CAN'T SAY. Some examples of questions are given below. Please note that these passages are not the exact passages asked. The passages used a good deal of difficult words which have been removed in this reproduction. Also the passages appearing in the actual paper are much lengthier.

Directions: Answer the questions given below the passage or statement as true, false or can't say.

PASSAGE A: My father has no brothers. He has three sisters who has two child's each.

Answer 1-5 based on the passage A

1. My grandfather has two sons .

Ans. False

2. Three of my aunts have two sons

Ans. Can't say

3. My father is only child to his father

Ans. False

4. I have six cousins from my mother side

Ans. Can't say

5. I have one uncle

Ans. Can't say (uncle can be from the mother's side as well)

PASSAGE B: Ether injected into gallbladder to dissolve cholesterol based gallstones. This type one day treatment is enough for gallstones not for calcium stones. This method is alternative to surgery for millions of people who are suffering from this disease.

Answer questions 6-9 based on passage B

6. Calcium stones can be cured in one day

Ans. False

7. Hundreds of people contain calcium stones

Ans. Can't say

8. Surgery is the only treatment to calcium stones

Ans. True

9. Ether will be injected into the gallbladder to cure the cholesterol based gall stones

Ans. True

PASSAGE C: Hacking is illegal entry into another computer. This happens mostly because of lack of knowledge of computer networking. With networks one machine can access to another machine. Hacking go about without knowing that each network is accredited to use network facility?

Answer questions 10-12 based on passage B

10. Hackers never break the code of the company which they work for

Ans. Can't say

11. Hacking is the only vulnerability of the computers for the usage of the data

Ans. False

12. Hacking is done mostly due to the lack of computer knowledge

Ans. False

PASSAGE C: Alpine tunnels are closed tunnels. In the past 30 yrs not even a single accident has been recorded for there is one accident in the rail road system. Even in case of a fire accident it is possible to shift the passengers into adjacent wagons and even the live fire can be detected and extinguished with in the duration of 30 min.

Answer questions 13-16 based on passage C

13. No accident can occur in the closed tunnels

Ans. True

14. Fire is allowed to live for 30 min

Ans. False

16. All the care that travel in the tunnels will be carried by rail shutters.

Ans.True

PASSAGE D: In the past helicopters were forced to ground or crash because of the formation of the ice on the rotors and engines. A new electronic device has been developed which can detect the water content in the atmosphere and warns the pilot if the temperature is below freezing temperature about the formation of the ice on the rotors and wings.

Answer questions 17-20 based on passage D

17. The electronic device can avoid formation of the ice on the wings

Ans.False

18. There will be the malfunction of rotor & engine because of formation of ice

Ans.True

19. The helicopters were to be crashed or grounded

Ans.True

20. There is only one device that warn about the formation of ice

Ans.True

PASSAGE E: In the survey conducted in Mumbai out of 63 newly married house wives not a single house wife felt that the husbands should take equal part in the household work as they felt they loose their power over their husbands. In spite of their careers they opt to do the kitchen work themselves after coming back to home. The wives get half as much leisure time as the husbands get at the week ends.

Answer questions 21-23 based on passage E

21. Housewives want the husbands to take part equally in the household

Ans.False

22. Wives have half as much leisure time as the husbands have

Ans. False

23. 39% of the men will work equally in the house in cleaning and washing

Ans. False

PASSAGE F: Copernicus is the intelligent. In the days of Copernicus the transport and technology development was less & it took place weeks to communicate a message at that time, wherein we can send it through satellite with in no time. Even with this fast development it has become difficult to understand each other.

Answer questions 24-27 based on passage F

24. People were not intelligent during Copernicus days

Ans.False

25. Transport facilities are very much improved in now a day

Ans.Can't say

26. Even with the fast developments of the technology we can't live happily.

Ans. Can't say

27. We can understand the people very much with the development of communication

Ans. False.

PASSAGE G: Senior managers warned the workers that because of the introductory of Japanese industry in the car market. There is the threat to the workers. They also said that there will be the reduction in the purchase of the sales of car in public. the interest rates of the car will be increased with the loss in demand.

Answer questions 28-31 based on passage G

28. Japanese workers are taking over the jobs of Indian industry.

Ans.False

29. Managers said car interests will go down after seeing the raise in interest rates.

Ans.True

30. Japanese investments are ceasing to end in the car industry.

Ans. False

31. People are very interested to buy the cars.

Ans.False

PASSAGE H: In the Totalitarian days, the words have very much devalued. In the present day, they are becoming domestic that is the words will be much more devalued. In those days, the words will be very much affected in political area. but at present, the words came very cheap .We can say they come free at cost.

Answer questions 32-34 based on passage H

32. Totalitarian society words are devalued.

Ans.False

33. Totalitarians will have to come much about words

Ans.True

34. The art totalitarian society the words are used for the political speeches.

Ans. False

PASSAGE I: There should be copyright for all arts. The reel has came that all the arts has come under one copy right society, they were use the money that come from the arts for the developments . There may be a lot of money will come from the Tagore works. We have to ask the benifiters from Tagore work to help for the development of his works.

Answer questions 35-39 based on passage I

35. Tagore works are come under this copy right rule.

Ans. False

36. People are free to go to the public because of the copy right rule.

Ans: Can't say

37 People gives to theater and collect the money for development.

Ans: Can't say

38 We have asked the Tagore residents to help for the developments of art.

Ans: Can't say

#### PSYCHOMETRIC TEST

You don't need to fret much about this test. This test consists of 150 questions and is just a psychology test which should be answered confidently and doesn't require any preparation. One must try being consistent while answering as the same questions are repeatedly asked in different forms. Also one must answer all questions. Questions are of yes, no or can't say kind.

1. Will you be interested in social activities?
2. While going upstairs do you move two steps at a time?
3. Can you make friends with people of the same sex or with opposite sex also
4. Your friends consider you as a leader in your group
5. People think that you're serious minded.
6. There are times you feel dull without any reason.
7. You host several parties
8. When relatives come to your house do you entertain them?
9. You can work for long hours without tiredness.
10. In your company you want to lead the organization.

1) A boy was asked to find the value of  $\frac{7}{12}$  of a sum of money. Instead of multiplying The sum by  $\frac{7}{12}$  he divided it by  $\frac{7}{12}$  and thus his answer exceeded the correct answer By Rs.95. Find the correct answer.

Sol: Let sum = Rs. K

$$\therefore \frac{12}{7} k - \frac{7k}{12} = 95$$

$$\rightarrow 144k - 49k/84 = 95 \rightarrow k = 84$$

$$\therefore \frac{7}{12} k \rightarrow \frac{7}{12} * 84 = \text{Rs. } 49$$

2) The value of  $\frac{1}{4} + \frac{1}{4.3} + \frac{1}{4.32} + \frac{1}{4.33}$  correct to four places of decimals is

$$\text{Sol: } \frac{1}{4} + \frac{1}{12} + \frac{1}{36} + \frac{1}{108} = \frac{27+9+3+1}{108}$$

$$\rightarrow \frac{40}{108} \rightarrow \frac{10}{27}$$

$$= 0.3704$$

3) If  $\frac{2}{3}$ rd of a number is subtracted from  $\frac{7}{3}$  of the number, the result is 2 more than the number itself. Find the number.

Sol: Let the number be k

$$\therefore \frac{7}{3} k - \frac{2}{3} k = k+2 \rightarrow \frac{5}{3} k = k+2$$



$$\rightarrow \frac{2}{3}k = 2 \rightarrow k = 3$$

4) Simplify  $3.7 \times 3.7 + 2.3 \times 2.3 + 2 \times 3.7 \times 2.3 / 4.6 \times 4.6 - 3.4 \times 3.4$

Sol:  $\rightarrow (3.7 + 2.3)^2 / (4.6 + 3.4)(4.6 - 3.4)$

$$\rightarrow \frac{36}{8} \times 1.2 \rightarrow \frac{36}{9.6} = \frac{360}{96} = 3 \frac{3}{4}$$

5) Three numbers are in the ratio 3:4:5. The sum of the largest and the smallest equals the sum of the third and 52. The smallest number is:

Sol: Let the numbers be x, y, z

$$\therefore x/3 = y/4 = z/5 = k$$

$$\therefore x = 3k, y = 4k, z = 5k$$

$$\therefore 3k + 5k = 4k + 52$$

$$\rightarrow k = 13$$

$$\therefore \text{Smallest number} = 39$$

6) Of the three numbers, second is twice the first and also thrice the third. If the average of the three numbers is 44, the largest number is (3)

1) 24

- 2) 36
- 3) 72
- 4) 108

Sol: Let the 3rd number be  $x$ , Then, second number =  $3x$

$$\therefore \text{First number} = \frac{3x}{2}$$

$$\therefore x + 3x + \frac{3x}{2} = (44 \times 3)$$

$$\rightarrow 11x/2 = 132 \rightarrow x = 24$$

$$\text{Largest number} \rightarrow 3x$$

$$\rightarrow 3 \times 24 = 72$$

7) The least number of five digits which is exactly divisible by 12, 15 and 18 is

- 1) 10010
- 2) 10015
- 3) 10020
- 4) 10080

Sol: Least number of 5 digits is 10000.

L.C.M of 12, 15, 18 is 180

On dividing 10000 by 180, the remainder is 100.

$$\therefore \text{Required number} = 10000 + (180 - 100) = 10080$$

8) Simplify  $\frac{2}{3} / \frac{4}{9}$  of  $7\frac{1}{2} + 999 \frac{494}{495} * 99$

- 1) 99999
- 2) 10000
- 3) 99000
- 4) 11111

Sol:  $\frac{2}{3} / \frac{4}{9}$  of  $15\frac{1}{2} + (999 + \frac{494}{495}) * 99$

$$= \frac{2}{3} / \frac{10}{3} + 999*99 + \frac{494}{495} * 99$$

$$= \frac{2}{3} * \frac{3}{10} + (1000 - 1) 99 + \frac{494}{495} * 99$$

$$= \frac{1}{5} + 99000 - 99 + \frac{494}{5}$$

$$= \frac{494}{5} + 99000 - 99 = 99000$$

9) If  $\frac{a}{2} = \frac{b}{3} = \frac{c}{5}$ , the value of  $\frac{a+b+c}{c}$  is

- 1) 2
- 2) 5
- 3)  $\frac{1}{2}$
- 4)  $\frac{1}{5}$

Sol:  $\frac{a}{2} = \frac{b}{3} = \frac{c}{5} = k$

$$\rightarrow a = 2k, b = 3k, c = 5k$$

$$\therefore a+b+c/c = 2k+3k+5k/5k = 10k/5k = 2$$

10) Simplify:  $2 \frac{1}{2}$  of  $\frac{3}{4} * \frac{1}{2} / \frac{3}{2} + \frac{1}{2} / \frac{3}{2} (\frac{2}{3} - \frac{1}{2}$  of  $\frac{2}{3})$  to get

- 1)  $1 \frac{5}{8}$
- 2)  $2 \frac{5}{8}$
- 3)  $1 \frac{8}{11}$
- 4)  $3 \frac{5}{8}$

$$\text{Sol: } 1) 2 \frac{1}{2} \text{ of } \frac{3}{4} * \frac{1}{2} / \frac{3}{2} + \frac{1}{2} / \frac{3}{2} (\frac{2}{3} - \frac{1}{2} \text{ of } \frac{2}{3})$$

$$\rightarrow (\frac{5}{2} * \frac{3}{4}) * \frac{1}{2} * \frac{2}{3} + \frac{1}{2} * \frac{2}{3} * (\frac{2}{3} - \frac{1}{2} * \frac{2}{3})$$

$$\rightarrow \frac{15}{8} * \frac{1}{3} + \frac{1}{3} * [ (\frac{2}{3} - \frac{1}{3}) ]$$

$$\rightarrow \frac{15}{8} * \frac{1}{3} + \frac{1}{3} * [(\frac{2}{3} - \frac{1}{3}) ]$$

$$\rightarrow \frac{5}{8} + \frac{1}{3} / \frac{1}{3}$$

$$\rightarrow \frac{5}{8} + 1 = 1 \frac{5}{8}$$

11) If  $a = 16$  and  $b =$  then  $a^2+b^2+ab/a^3-b^3$  will be

- 1) 11
- 2)  $\frac{1}{11}$

3) 121

4) Non

$$\text{Sol: } 1) \frac{162+52+80}{163-53} = \frac{256+25+80}{4096-125}$$

$$= \frac{361}{3971} = \frac{1}{11}$$

12) Find the smallest number which when divided by 6, 10 and 15 respectively leaves 5 as Remainder in each case?

$$\text{Sol: L.C.M of } 6, 10, 15 \rightarrow 30$$

$$\text{Required number} = 30 + 5 = 35$$

13) If  $\frac{1}{3}$ rd of a number subtracted from  $\frac{1}{2}$  of that number, then the difference is 10 more Than  $\frac{1}{7}$ th of the same number. How much is that number?

$$\text{Sol: Let the number} = x$$

$$\therefore \frac{x}{2} - \frac{x}{3} = \frac{x}{7} + 10$$

$$\rightarrow \frac{3x - 2x}{6} = \frac{x}{7} + 10$$

$$\rightarrow \frac{x}{6} - \frac{x}{7} = 10$$

$$\rightarrow \frac{7x - 6x}{42} = 10 \quad \rightarrow x = 420$$

14) If we multiply a fraction by itself and divide the product by its reciprocal; the fraction Thus obtained is  $15 \frac{5}{8}$ . The original fraction is:

Sol: Let the original fraction be  $x/y$

$$X/y * x/y/y/x = 15 \frac{5}{8}$$

$$--> x/y * x/y * x/y = 125/8$$

$$--> x^3/y^3 = 125/8$$

$$> x/y = \sqrt[3]{125/8} = 5/2 = 2 \frac{1}{2}$$

15) Find the H.C.F. of 852, 1065 and 1491.

Sol: 852) 1065(1

852

213) 852 (4

852

0

213) 1491(7

1491

0

Hence 213 is H.C.F of given numbers.

16) Find the greatest number which divides 3460 and 9380 leaving as remainder 9 and 13 respectively.

Sol: Since on dividing 3460 remainder 9 is left, the required number must divide  $(3460-9) = 3451$  exactly . Similarly it must divide  $9380 - 13 = 9367$  exactly. Hence H.C.F of 9367 and 3451 will be required number

#### Aptitude Question And Answer For Job Seekers

1) Joe Barbera who died recently at an age of 95 was famous for

- 1) He was the first defence secretary of USA
- 2) He had won Nobel Prize twice
- 3) He was a famous cartoonist who designed Tom & Jerry
- 4) He was the first American to climb Mt.Everest

2) Which of the following was voted as the best BBC documentary ?

- 1) Being American
- 2) Being Indian
- 3) Being Pakistani
- 4) Being British

3) Which is going to be the seventh and the final book of the Harry potter series?

- 1) Harry meets his end
- 2) Harry potter: The last destination
- 3) Harry potter and the Deathly Halloms
- 4) Harry potter and the final countdown

4) Who is the author of the book "you can heal your life"?

- 1) Louise L Hay
- 2) Stephen Roberts
- 3) William Dalrymple
- 4) Robert Corps

5) Jignesh Shah, the CEO of which of the following companies has won the US – India businessman award?

- 1) Tata Steel
- 2) Bharti Airtel
- 3) Financial Technologies Group
- 4) None of these

6) Who is the author of the book "The of Everying : The Origin and Fate of The Universe?"

- 1) William Dalrymple
- 2) Stephen Hawkings



3) Stephen Roberts

4) Louise L Hay

7) Who was the vice president of NAAS COM who died recently ?

1) Kiran Karnick

2) Sunil Mehta

3) Anil Kumar

4) None of these

8) Who is the author of the book, "Mithya :A Handbook of Hindu Mythology"?

1) Devdutt pattanaik

2) Samir Sinha

3) Amrita Pritam

4) Rishi Shankar

9) Who is the author of the book, "Me: A Handbook For Life"?

1) Ravi Shekhar

2) Manish Sinha

3) Raksha Bharadia

4) Amrita pitam

10) What is the profession of Chitra Bharucha, who is going to be the next head of BBC?

- 1) Actor
- 2) Doctor
- 3) Engineer
- 4) Writer

11) According to a recent survey which state was elected to have largest area under forest (31%)

- 1) Bihar
- 2) Assam
- 3) Madhya pradesh
- 4) Kerala

12) Who is going to be the new executive managing director of global real estate consultancy firm Cushman and wakefield?

- 1) Nandan Nilekaru
- 2) Suresh Mehta
- 3) Sanjay Verma
- 4) Pawan Shrivastava

13) In the Line of Fire: A Memoir is the autobiography of which of the following personalities?

- 1) General J.J Singh
- 2) Captain Vikram Batra
- 3) George Fernandes
- 4) Gen.pervez Musharraf

14) Which of the following places was the venue for the 14th NAM Summit?

- 1) Havana
- 2) Moscow
- 3) New Delhi
- 4) Islamabad

15) Who among the following is the winner of the Gandhi International peace prize for the year 2006?

- 1) Desmond Tutu
- 2) Sabana Azmi
- 3) Nelson Mandela
- 4) Muhammad Yunus

Ans:

- 1) 3    2) 2    3) 3    4) 1    5) 3  
6) 2    7) 2    8) 1    9) 3    10) 2  
11) 3    12) 3    13) 4    14) 1    15)

## Quatitative Aptitude Model Paper - 2

1. 6, 24, 60, 120, 210

a) 336 b) 366 c) 330 d) 660

Answer : a) 336

Explanation : The series is 1.2.3, 2.3.4, 3.4.5, 4.5.6, 5.6.7, ..... ('.' means product)

2. 1, 5, 13, 25

Answer : 41

Explanation : The series is of the form  $0^2+1^2$ ,  $1^2+2^2$ ,...

3. 0, 5, 8, 17

Answer : 24

Explanation :  $1^2-1$ ,  $2^2+1$ ,  $3^2-1$ ,  $4^2+1$ ,  $5^2-1$

4. 1, 8, 9, 64, 25 (Hint : Every successive terms are related)

Answer : 216

Explanation :  $1^2$ ,  $2^3$ ,  $3^2$ ,  $4^3$ ,  $5^2$ ,  $6^3$

5. 8, 24, 12, 36, 18, 54

Answer : 27

6. 71, 76, 69, 74, 67, 72

Answer : 67

7. 5, 9, 16, 29, 54

Answer : 103

Explanation :  $5*2-1=9$ ;  $9*2-2=16$ ;  $16*2-3=29$ ;  $29*2-4=54$ ;  $54*2-5=103$

8. 1, 2, 4, 10, 16, 40, 64 (Successive terms are related)

Answer : 200

Explanation : The series is powers of 2 ( $2^0, 2^1, \dots$ ).

All digits are less than 8. Every second number is in octal number system.

128 should follow 64. 128 base 10 = 200 base 8.

9. 3, 5, 7, 12, 13, 17, 19

Answer : 12

Explanation : All but 12 are odd numbers

10. 2, 5, 10, 17, 26, 37, 50, 64

Answer : 64

Explanation :  $2+3=5$ ;  $5+5=10$ ;  $10+7=17$ ;  $17+9=26$ ;  $26+11=37$ ;  $37+13=50$ ;  $50+15=65$ ;

11. 105, 85, 60, 30, 0, -45, -90

Answer : 0

Explanation :  $105-20=85$ ;  $85-25=60$ ;  $60-30=30$ ;  $30-35=-5$ ;  $-5-40=-45$ ;  $-45-45=-90$ ;



### Quantitative Aptitude Model Paper - 3

1. What is the number of zeros at the end of the product of the numbers from 1 to 100?

**Answer :** 127

2. A fast typist can type some matter in 2 hours and a slow typist can type the same in 3 hours. If both type combinely, in how much time will they finish?

**Answer :** 1 hr 12 min

Explanation : The fast typist's work done in 1 hr =  $1/2$

The slow typist's work done in 1 hr =  $1/3$

If they work combinely, work done in 1 hr =  $1/2 + 1/3 = 5/6$

So, the work will be completed in  $6/5$  hours. i.e.,  $1 + 1/5$  hours = 1hr 12 min

3. Gavaskar's average in his first 50 innings was 50. After the 51st innings, his average was 51. How many runs did he score in his 51st innings. (supposing that he lost his wicket in his 51st innings)

**Answer :** 101

Explanation : Total score after 50 innings =  $50 * 50 = 2500$

Total score after 51 innings =  $51 * 51 = 2601$

So, runs made in the 51st innings =  $2601 - 2500 = 101$

If he had not lost his wicket in his 51st innings, he would have scored an unbeaten 50 in his 51st innings.

4. Out of 80 coins, one is counterfeit. What is the minimum number of weighings needed to find out the counterfeit coin?

**Answer :** 4

5. What can you conclude from the statement : All green are blue, all blue are red. ?

(i) some blue are green

(ii) some red are green

(iii) some green are not red

(iv) all red are blue

(a) i or ii but not both

(b) i & ii only

(c) iii or iv but not both

(d) iii & iv

**Answer :** (b)

6. A rectangular plate with length 8 inches, breadth 11 inches and thickness 2 inches is available. What is the length of the circular rod with diameter 8 inches and equal to the volume of the rectangular plate?

**Answer :** 3.5 inches

Explanation : Volume of the circular rod (cylinder) = Volume of the rectangular plate

$(\pi/4) * 8^2 * h = 8 * 11 * 2$

$h = 7/2 = 3.5$

7. What is the sum of all numbers between 100 and 1000 which are divisible by 14 ?

**Answer :** 35392

Explanation : The number closest to 100 which is greater than 100 and divisible by 14 is 112, which is the first term of the series which has to be summed.

The number closest to 1000 which is less than 1000 and divisible by 14 is 994, which is the last term of the series.

$112 + 126 + \dots + 994 = 14(8 + 9 + \dots + 71) = 35392$

8. If  $s(a)$  denotes square root of  $a$ , find the value of  $s(12 + s(12 + s(12 + \dots)$  upto infinity.

**Answer :** 4

Explanation : Let  $x = s(12 + s(12 + s(12 + \dots)$

We can write  $x = s(12 + x)$ . i.e.,  $x^2 = 12 + x$ . Solving this quadratic equation, we get  $x = -3$  or  $x = 4$ . Sum cannot be -ve and hence sum = 4.

#### Quatitative Aptitude Model Paper - 4

1. The diameter of the driving wheel of a bus is 140cm. How many revolutions per minute must the wheel make in order to keep a speed of 66 kmph?

Ans. 250

Sol. Distance to be covered in 1 min =  $(66 \times 1000) / 60$  m = 1100m  
Circumference of the wheel =  $(2 \times 22/7 \times 0.70)$  m = 4.4m.  
So, Number of revolutions per min =  $1100 / 4.4 = 250$ .

2. Vivek travelled 1200km by air which formed  $2/5$  of his trip. One third of the whole trip, he travelled by car and the rest of the journey he performed by train. The distance travelled by train was ?

Ans. 800km

Sol: Let the total trip be x km.  
Then  $2x/5 = 1200$   
 $x = 1200 \times 5/2 = 3000$  km  
Distance travelled by car =  $1/3 \times 3000 = 1000$  km  
Journey by train =  $[3000 - (1200 + 1000)] = 800$  km.

3. Two trains 200mts and 150mts are running on the parallel rails at this rate of 40km/hr and 45km/hr. In how much time will they cross each other if they are running in the same direction.

Ans: 252sec

Sol: Relative speed =  $45 - 40 = 5$  km/hr =  $25/18$  mt/sec  
Total distance covered = sum of lengths of trains = 350mts.  
So, time taken =  $350 \times 18/25 = 252$  sec.

4. From height of 8 mts a ball fell down and each time it bounces half the distance back. What will be the distance travelled

Ans.: 24

Sol.  $8 + 4 + 4 + 2 + 2 + 1 + 1 + 0.5 + 0.5 + \dots = 24$

5. If a man walks at the rate of 5kmph, he misses a train by only 7min. However if he walks at the rate of 6 kmph he reaches the station 5 minutes before the arrival of the train. Find the distance covered by him to reach the station.

Ans: 6km.

Sol: Let the required distance be x km.  
Difference in the times taken at two speeds = 12 mins =  $1/5$  hr.  
Therefore  $x/5 - x/6 = 1/5$  or  $6x - 5x = 6$  or  $x = 6$  km.  
Hence, the required distance is 6 km

6. Walking  $5/6$  of its usual speed, a train is 10min late. Find the usual time to cover the journey?

Ans: 50 min

Sol: New speed =  $5/6$  of usual speed  
New time =  $6/5$  of usual time

Therefore,  $(\frac{6}{5} \text{ of usual time}) - \text{usual time} = 10\text{min}$   
Therefore Usual time = 50min

7. A train running at 54 kmph takes 20 seconds to pass a platform. Next it takes 12 seconds to pass a man walking at 6 kmph in the same direction in which the train is going. Find the length of the train and the length of the platform.

Ans. length of the train=160m  
length of the platform=140 m.

Sol: Let the length of the train be  $x$  meters and length of the platform be  $y$  meters.  
Speed of the train relative to man  $= (54 - 6)$  kmph  $= 48$  kmph.  
 $= (48 * \frac{5}{18})$  m/sec  $= \frac{40}{3}$  m/sec.

In passing a man, the train covers its own length with relative speed.  
Therefore, length of the train  $= (\text{Relative speed} * \text{Time})$   
 $= (\frac{40}{3} * 12)$  m  $= 160$  m.

Also, speed of the train  $= (54 * \frac{5}{18})$  m/sec  $= 15$  m/sec.  
Therefore,  $\frac{x+y}{20} = \frac{x}{8}$  or  $x+y=300$  or  $y=(300-160)$  m  $= 140$  m.  
Therefore, Length of the platform  $= 140$  m.

8. A man is standing on a railway bridge which is 180m long. He finds that a train crosses the bridge in 20 seconds but himself in 8 seconds. Find the length of the train and its speed.

Ans: length of train=120m  
Speed of train=54kmph

Sol: Let the length of the train be  $x$  meters  
Then, the train covers  $x$  meters in 8 seconds and  $(x + 180)$  meters in 20 seconds.  
Therefore  $\frac{x}{8} = \frac{(x+180)}{20}$  ó  $20x = 8(x+180)$  ó  $x = 120$   
Therefore Length of the train = 120m  
Speed of the train =  $\frac{120}{8}$  m/sec = 15 m/sec  $= 15 * \frac{18}{5}$  kmph = 54kmph