APTITUDE QUESTIONS

1)
Alfred buys an old scooter for Rs. 4700 and spends Rs. 800 on its repairs. If he sells the scooter for Rs. 5800, his gain percent is:

2)
The cost price of 20 articles is the same as the selling price of *x* articles. If the profit is 25%, then the value of *x* is:

3)
If selling price is doubled, the profit triples. Find the profit percent.

4)

In a certain store, the profit is 320% of the cost. If the cost increases by 25% but the selling price remains constant, approximately what percentage of the selling price is the profit?

5)

A vendor bought toffees at 6 for a rupee. How many for a rupee must he sell to gain 20%?

6)

The percentage profit earned by selling an article for Rs. 1920 is equal to the percentage loss incurred by selling the same article for Rs. 1280. At what price should the article be sold to make 25% profit?

7)
A shopkeeper expects a gain of 22.5% on his cost price. If in a week, his sale was of Rs. 392, what was his profit?

8)A man buys a cycle for Rs. 1400 and sells it at a loss of 15%. What is the selling price of the cycle?

9)Sam purchased 20 dozens of toys at the rate of Rs. 375 per dozen. He sold each one of them at the rate of Rs. 33. What was his percentage profit?

10)
Some articles were bought at 6 articles for Rs. 5 and sold at 5 articles for Rs. 6. Gain percent is:

11)

On selling 17 balls at Rs. 720, there is a loss equal to the cost price of 5 balls. The cost price of a ball is:

12)

When a plot is sold for Rs. 18,700, the owner loses 15%. At what price must that plot be sold in order to gain 15%?

13)

100 oranges are bought at the rate of Rs. 350 and sold at the rate of Rs. 48 per dozen. The percentage of profit or loss is:

14)

A shopkeeper sells one transistor for Rs. 840 at a gain of 20% and another for Rs. 960 at a loss of 4%. His total gain or loss percent is:

15)

A trader mixes 26 kg of rice at Rs. 20 per kg with 30 kg of rice of other variety at Rs. 36 per kg and sells the mixture at Rs. 30 per kg. His profit percent is:

WORK AND TIME

1) A can do a work in 15 days and B in 20 days. If they work on it together for 4 days, then the fraction of the work that is left is :

2)
A can lay railway track between two given stations in 16 days and B can do the same job in 12 days. With help of C, they did the job in 4 days only. Then, C alone can do the job in:

3)
A, B and C can do a piece of work in 20, 30 and 60 days respectively. In how many days can A do the work if he is assisted by B and C on every third day?

4)
A is thrice as good as workman as B and therefore is able to finish a job in 60 days less than B. Working together, they can do it in:

5)
A alone can do a piece of work in 6 days and B alone in 8 days. A and B undertook to do it for Rs. 3200. With the help of C, they completed the work in 3 days. How much is to be paid to C?

6)

If 6 men and 8 boys can do a piece of work in 10 days while 26 men and 48 boys can do the same in 2 days, the time taken by 15 men and 20 boys in doing the same type of work will be:

7)

A can do a piece of work in 4 hours; B and C together can do it in 3 hours, while A and C together can do it in 2 hours. How long will B alone take to do it?

8)

A can do a certain work in the same time in which B and C together can do it. If A and B together could do it in 10 days and C alone in 50 days, then B alone could do it in:

9)
.
A does 80% of a work in 20 days. He then calls in B and they together finish the remaining work in 3 days. How long B alone would take to do the whole work?

10)

A machine P can print one lakh books in 8 hours, machine Q can print the same number of books in 10 hours while machine R can print them in 12 hours. All the machines are started at 9 A.M. while machine P is closed at 11 A.M. and the remaining two machines complete work. Approximately at what time will the work (to print one lakh books) be finished ?

11)

A can finish a work in 18 days and B can do the same work in 15 days. B worked for 10 days and left the job. In how many days, A alone can finish the remaining work?

12)
4 men and 6 women can complete a work in 8 days, while 3 men and 7 women can complete it in 10 days. In how many days will 10 women complete it?

13)

A and B can together finish a work 30 days. They worked together for 20 days and then B left. After another 20 days, A finished the remaining work. In how many days A alone can finish the work?

14)

P can complete a work in 12 days working 8 hours a day. Q can complete the same work in 8 days working 10 hours a day. If both P and Q work together, working 8 hours a day, in how many days can they complete the work?

15)

10 women can complete a work in 7 days and 10 children take 14 days to complete the work. How many days will 5 women and 10 children take to complete the work?

LOGICAL ABILITY

1) Look at this series: 2, 1, (1/2), (1/4), ... What number should come next?

2) Look at this series: 7, 10, 8, 11, 9, 12, ... What number should come next?

3)
Look at this series: 36, 34, 30, 28, 24, ... What number should come next?

4)
Look at this series: 22, 21, 23, 22, 24, 23, ... What number should come next?

5)

Look at this series: 53, 53, 40, 40, 27, 27, ... What number should come next?

6)
Look at this series: 21, 9, 21, 11, 21, 13, 21, ... What number should come next?

7)
Look at this series: 58, 52, 46, 40, 34, ... What number should come next?

8)Look at this series: 3, 4, 7, 8, 11, 12, ... What number should come next?

9)
Look at this series: 8, 22, 8, 28, 8, ... What number should come next?

10)

Look at this series: 31, 29, 24, 22, 17, ... What number should come next?

11)
Look at this series: 8, 6, 9, 23, 87 , ... What number should come next?

12)

Look at this series: 5.2, 4.8, 4.4, 4, ... What number should come next?

13)

Look at this series: 2, 6, 18, 54, ... What number should come next?

14)

Look at this series: 80, 10, 70, 15, 60, ... What number should come next?

15)
Look at this series: 544, 509, 474, 439, ... What number should come next?

16)

SCD, TEF, UGH, ____, WKL

17)
B2CD, _____, BCD4, B5CD, BC6D

18)

FAG, GAF, HAI, IAH, ____

19)
ELFA, GLHA, ILJA, _____, MLNA

20)

CMM, EOO, GQQ, _____, KUU

21)
ZA5, Y4B, XC6, W3D, _____

22)

QPO, NML, KJI, _____, EDC

23)

JAK, KBL, LCM, MDN, _____

24)

BCB, DED, FGF, HIH, ___

25)

P5QR, P4QS, P3QT, _____, P1QV

26)
QAR, RAS, SAT, TAU, _____

27)
DEF, DEF2, DE2F2, _____, D2E2F3

Permutation and combination

1.
From a group of 7 men and 6 women, five persons are to be selected to form a committee so that at least 3 men are there on the committee. In how many ways can it be done?

2. In how many different ways can the letters of the word 'LEADING' be arranged in such a way that the vowels always come together?

3.
In how many different ways can the letters of the word 'CORPORATION' be arranged so that the vowels always come together?

4.Out of 7 consonants and 4 vowels, how many words of 3 consonants and 2 vowels can be formed?

5. In how many ways can the letters of the word 'LEADER' be arranged?

6. In a group of 6 boys and 4 girls, four children are to be selected. In how many different ways can they be selected such that at least one boy should be there?

7. How many 3-digit numbers can be formed from the digits 2, 3, 5, 6, 7 and 9, which are divisible by 5 and none of the digits is repeated?

8.
In how many ways a committee, consisting of 5 men and 6 women can be formed from 8 men and 10 women?

9. A box contains 2 white balls, 3 black balls and 4 red balls. In how many ways can 3 balls be drawn from the box, if at least one black ball is to be included in the draw?

10. In how many different ways can the letters of the word 'DETAIL' be arranged in such a way that the vowels occupy only the odd positions?

11 In how many ways can a group of 5 men and 2 women be made out of a total of 7 men and 3 women?

12. How many 4-letter words with or without meaning, can be formed out of the letters of the word, 'LOGARITHMS', if repetition of letters is not allowed?

13.
In how many different ways can the letters of the word 'MATHEMATICS' be arranged so that the vowels always come together?

14.
In how many different ways can the letters of the word 'OPTICAL' be arranged so that the vowels always come together?

PROBABILITY

1. Tickets numbered 1 to 20 are mixed up and then a ticket is drawn at random. What is the probability that the ticket drawn has a number which is a multiple of 3 or 5?

2.
A bag contains 2 red, 3 green and 2 blue balls. Two balls are drawn at random. What is the probability that none of the balls drawn is blue?

3. In a box, there are 8 red, 7 blue and 6 green balls. One ball is picked up randomly. What is the probability that it is neither red nor green?

4. What is the probability of getting a sum 9 from two throws of a dice?

5. Three unbiased coins are tossed. What is the probability of getting at most two heads?

6.
Two dice are thrown simultaneously. What is the probability of getting two numbers whose product is even?

7.
In a class, there are 15 boys and 10 girls. Three students are selected at random. The probability that 1 girl and 2 boys are selected, is:

8.
In a lottery, there are 10 prizes and 25 blanks. A lottery is drawn at random. What is the probability of getting a prize?

9. From a pack of 52 cards, two cards are drawn together at random. What is the probability of both the cards being kings?

10.
Two dice are tossed. The probability that the total score is a prime number is:

11.
A card is drawn from a pack of 52 cards. The probability of getting a queen of club or a king of heart is:

12. A bag contains 4 white, 5 red and 6 blue balls. Three balls are drawn at random from the bag. The probability that all of them are red, is:

13.
Two cards are drawn together from a pack of 52 cards. The probability that one is a spade and one is a heart, is:

14.
One card is drawn at random from a pack of 52 cards. What is the probability that the card drawn is a face card (Jack, Queen and King only)?

15.
A bag contains 6 black and 8 white balls. One ball is drawn at random. What is the probability that the ball drawn is white?

RATIOS AND MIXTURES

1. A vessel is filled with liquid, 3 parts of which are water and 5 parts syrup. How much of the mixture must be drawn off and replaced with water so that the mixture may be half water and half syrup?

2. Tea worth Rs. 126 per kg and Rs. 135 per kg are mixed with a third variety in the ratio 1 : 1 : 2. If the mixture is worth Rs. 153 per kg, the price of the third variety per kg will be:

3. A can contains a mixture of two liquids A and B is the ratio 7 : 5. When 9 litres of mixture are drawn off and the can is filled with B, the ratio of A and B becomes 7 : 9. How many litres of liquid A was contained by the can initially?

4. A milk vendor has 2 cans of milk. The first contains 25% water and the rest milk. The second contains 50% water. How much milk should he mix from each of the containers so as to get 12 litres of milk such that the ratio of water to milk is 3 : 5?

5.
In what ratio must a grocer mix two varieties of pulses costing Rs. 15 and Rs. 20 per kg respectively so as to get a mixture worth Rs. 16.50 kg?

6.

A dishonest milkman professes to sell his milk at cost price but he mixes it with water and thereby gains 25%. The percentage of water in the mixture is:

7. How many kilogram of sugar costing Rs. 9 per kg must be mixed with 27 kg of sugar costing Rs. 7 per kg so that there may be a gain of 10% by selling the mixture at Rs. 9.24 per kg?

8. A container contains 40 litres of milk. From this container 4 litres of milk was taken out and replaced by water. This process was repeated further two times. How much milk is now contained by the container?
9.
A jar full of whisky contains 40% alcohol. A part of this whisky is replaced by another containing 19% alcohol and now the percentage of alcohol was found to be 26%. The quantity of whisky replaced is:

10.

In what ratio must water be mixed with milk to gain $16\frac{2}{3}\%$ on selling the mixture at cost price?

11. Find the ratio in which rice at Rs. 7.20 a kg be mixed with rice at Rs. 5.70 a kg to produce a mixture worth Rs. 6.30 a kg.

12. In what ratio must a grocer mix two varieties of tea worth Rs. 60 a kg and Rs. 65 a kg so that by selling the mixture at Rs. 68.20 a kg he may gain 10%?

13. The cost of Type 1 rice is Rs. 15 per kg and Type 2 rice is Rs. 20 per kg. If both Type 1 and Type 2 are mixed in the ratio of 2 : 3, then the price per kg of the mixed variety of rice is:

14.
8 litres are drawn from a cask full of wine and is then filled with water. This operation is performed three more times. The ratio of the quantity of wine now left in cask to that of water is 16 : 65. How much wine did the cask hold originally?

15. A merchant has 1000 kg of sugar, part of which he sells at 8% profit and the rest at 18% profit. He gains 14% on the whole. The quantity sold at 18% profit is: