Ratio Proportion, Questions on ages & Partnership

Questions on basic concept of ratios: -

1. A and B are in the ratio 2:3 if sum of A & B is 35 find the values of A & B

2. A and B are in the ratio 3:8 if the difference between B & A is 45 then find the smaller number amongst them

3. The ratio of salaries of A,B and C is 5:2:4 if A's salary is 6000 more than B's salary Find the sum of salaries of A,B & C

4. The ratio of present ages of Father and son is 4:1 if product of their ages is 196 Find the ratio of their ages after 5 years from now

5. If P:Q=2:1 then find $\frac{P^2-Q^2}{P^2+Q^2}$

6. If A:B=7:3 then find $\frac{3a-5b}{2a+3b}$

7. If X:Y=3:4 then find $\frac{7x+3y}{7x-3y}$

8.If $A:B:C = 2:3:4\ then\ find\ \frac{A}{B}:\frac{B}{C}:\frac{C}{A}$

Questions on simple to compound ratio conversion: -

1.If a:b=2:3 and b:c=4:5 find a:b:c?

2.If a:b=1:2 and b:c=3:4 and c:d=5:6 find a:b:c:d?

3.If a:b= $\frac{1}{2}:\frac{3}{5}$ and b:c= $\frac{2}{3}:\frac{5}{4}$ find a:b:c?

4.If 2a=3b=4c find a:b:c?

5.The sum of three numbers A, B & C is 98 If ratios of A & B is 2 : 3 & that of B & C is 5:8 then find B?

6.If ratios of salaries of A & B as well as B & C is 4:5 and A is earning 18000 rupees less than C find the salary of B?

Questions on mixing two things together: -

1. In a 50 liters of milk & water solution, the ratio of milk & water is 3:2. If 5 liters of water is added to the mixture then find the new ratio of milk & water in the solution

2. 80 liters of spirit & water solution consist of spirit & water in ratio 11:5. If 20 liters of spirit is added to the mixture, then find the new ratio of spirit & water in the solution

3. In a 24 liters of milk & water solution, the ratio of milk & water is 5:3. How many liters of water should be added to the initial mixture, so that the resultant solution have milk & water in the ratio 3:5

4. A jar contains milk and water in the ratio of 5:6 if 20 liters of water is added the ratio becomes 1:2 find the initial quantity of milk and water in the mixture

5. An alloy contains Zinc and copper in the ratio of 2:3 if 10kgs of Zinc is added and 25kgs of copper is added the ratio will become 3:5 find the initial values of Zinc and copper

Questions on ages: -

1. If the ratio of present ages of A and B is 2:3 and 6 years later the ratio of their ages will become 7:9 find their present ages

2. If the ratio of present ages of A and B is 3:5 and 4 years before the ratio of their ages was 5:9 find their present ages

3. If the ratio of present ages of A and B is 2:1 and 8 years later the ratio of their ages will become 3:2 find the ratio of their ages after 20 years from present ages

4. If the ratio of ages of A and B 5 years back was 5:7 and after 10 years from now the ratio of their ages will become 4:5 find the ratio of their present ages

Questions on Income and Expenditure: -

1. If the ratio of income of A and B is 5:7 and the ratio of their expenditure is 3:5 if both of them saves 2000 each then find their Income

2. If the ratio of income of A and B is 7:9 and the ratio of their expenditure is 5:6 if A & B saves of them saves 4000 & 6000 respectively then find their Income

3. If the ratio of income & expenditure of A is 9:7 if A saves rupees 6000 then find his income

Questions on coins: -

1. A box contains 180 rupees in the form of 1 rupee, 50 paisa and 25 paisa, the number of coins of 1 rupee, 50 paisa and 25 paisa are in the ratio 2 : 3 : 4 Find the number of 50 paisa coins

2. A box contains 372 rupees in the form of 1 rupee, 50 paisa and 25 paisa, the number of coins of 1 rupee, 50 paisa and 25 paisa are in the ratio 3 : 8 : 20 Find the total number of coins

3. A box contains 90 rupees in the form of 50 paisa, 25 paisa and 10 paisa, the number of coins are in the ratio 2 : 3 : 5 Find the number of 25 paisa coins

Questions on partnership: -

Q1. A & B started a partnership with an investment of 2000 & 3000 Rs respectively and A left the partnership after 6 month then find the ratio in which the profit will be distributed amongst A and B after 12 months.

Q2. A & B started a partnership with an investment of 5000 & 4000 Rs respectively and B left the partnership after 8 month then find the profit earned by A if the total profit at the end of 1 year is 460

Q3. A & B and C started a partnership with an investment of 2000, 3000 & 4000 Rs respectively A left after 12 months and B left after 18 months find the profit of C after 2 years if total profit earned is 3100 and 200 Rs. out of profit is donated to charity

Q4. A & B started a partnership with an investment of 10000 & 15000 Rs respectively after 6 months B withdraws 5000 Rs find the ratio in which profit will be distributed after 1 year.

Q5. A, B and C started a partnership with an investment of 1000, 2000 and 3000 Rs respectively after 6 months B withdraws 1000 Rs and C invested another 1000 Rs. find the ratio in which profit will be distributed after 1 year.

Averages

Average of series in Arithmetic Progression: -

1. Find the average of 1, 2, 3, …….50?

2. Find the average of all even numbers from 1-100

3. Find the average of all odd numbers from 1-100?

4. Find the average of first 6 multiples of 8?

5. Find the average of first 9 multiples of 7?

6. Find the average of all the multiples of 7 from 1-100?

7. Find the average of all the multiples of 7 from 1-1000?

8. If the average of first 6 multiples of a number is 28 then find the number?

9. If the average of first 8 multiples of a number is 54 then find the number?

10. If the average of first 6 multiples of a number is 31.5 then find the number?

11. If the average of 5 consecutive natural numbers is 37 then find the highest number?

12. If the average of 7 consecutive natural numbers is 52 then find the product of first & last?

13. If the average of 6 consecutive natural no. is 23.5, find the first number?

14. If the average of 4 consecutive even no. is 25 then find the last number?

15. If the average of 5 consecutive odd numbers is 37 then fins the highest number?

Inclusion & Exclusion: -

1. The average age of 11 players in the team is 25 years; if the age of coach is included the average becomes 27 years find the age of coach?

2. The batting average of Rahul for 17 innings was 50 runs how much he should score in his next innings so that his average becomes 56?

3. A group of 6 members has an average weight of 65 kg's. If 1 new member joins the group the average weight will become 62 kg's. Find the weight of new member.

4. A class of 12 students have the average score of 55 marks if topper leaves the class, the average of the class becomes 52 find the marks of the topper

5. The average score of 9 players in the team is 20 runs, if the score of Virat and Rohit is also added, the average score of team becomes 30 runs find the score of Virat, if Rohit scored 50 runs in that match?

Finding Common value in group: -

1.The average of 11 numbers is 63, if the average of first 6 numbers is 60 and last 6 numbers is 65 then find the 6^{th} number?

2. The average temperature of 1 week is 39, if the average temperature of first 4 days is 42 and last 4 days is 38 then finds the temperature on 4^{th} day?

3. The averages of 10 numbers is 15, if the average of first 7 numbers is 18 and last 4 numbers is 12 then find the 7^{th} number?

Replacement based questions: -

1. The average weight of group of 10 people is 63 kg if a new person whose weight is 77kg replaces a person in a group whose weight is 57kg then find the new average weight of group?

2. The average age of group of 14 people is 27 years if a new person whose age is 16 years replaces a person in a group whose age is 30 years then find the new average age of group?

3. The average score of group of 9 students is 60 marks later it was realized that a student whose actual score is 36 has been taken as 63 by mistake find the actual average score of group?

4. The average score of group of 10 students is 55 marks later it was realized that two students whose actual scores are 50 and 65 has been taken as 60 and 40 by mistake find the actual average score of group?

Combined Average: -

1.The average of 20 numbers is 30 & another 30 numbers is 20.Find the average of all 50 numbers

2. The average score of 9 students of class A is 68 while the average score of 8 students of class B is 51, find the average score of both the class combined together

3. The average weight of 32 boys of class X is 60kg while the average weight of 40 boys of class Y is 33kg, find the average weight of both the class combined together

4. In a month of 30 days starting with Sunday, the average number of visitors in a library on a normal day is 240 while on Sunday it is 510 find the average number of visitors in a library for the whole month

Miscellaneous questions: -

1. 7 friends went to a hotel for meal. 6 of them spends 60 rupees each while 7^{th} person spends 120 more than average bill. Find the average bill and also find the total bill amount

2. Find the arithmetic mean of 3^{30}, 3^{60} ,3^{90}

3. The average temperature on Monday, Tuesday, Wednesday is 32 while on Tuesday, Wednesday & Thursday it is 30, if the temperature on Thursday is 26 then find the temperature on Monday?

4. The average weight of A, B & C is 84 kg when D joins them then there average weight becomes 80 kg, if E whose weight is 3 kgs more than D, replace A then the average weight of B, C, D & E becomes 79 kg find the weight of A.

5. Of three numbers first is twice the second and second is twice the third if the average of these 3 numbers is 21 then find the smallest number amongst them

Percentages

Basic Questions

Q1. A fruit seller had some fruits he sold 70% of the total fruits & he is left with 180 fruits find the no. of fruits sold by him?

Q2. In a school a certain no. of students appeared an exam if 65% students passed the exam and 140 students failed, find the total students who appeared for exam?

Q3. If 60% of a number is added to number itself the result is 800 find the 50% of the number?

Q4. A person spends 20%, 30% & 40% of his income on Food, Daily needs & rent respectively, if he still saves rupees 2500 find his Salary?

Q5. A student who got 30% marks in exam is failed by 20 marks while another student who got 40% has 10 marks more than passing find the passing marks & passing percentages?

Q6. In an election between two candidates, winning candidate got 58% of total votes & he won by the majority of 480 votes find the total votes casted?

Successive Percentage Change

1. If the length of rectangle got increased by 20% & the breadth of rectangle got increased by 10% find the change in area

2.The salary of a person got increased by 30% but due to recession in the market it got reduced by 20% find the overall % change in his salary

3. If the length of the square got decreased by 10% then find the %change in area of the square

4. A person gets 3 discounts of 10%, 20% & 50% on an article find the equivalent single discount

5. The population of a village got increased by 20% in first year but, due to earthquake, it got reduced by 40% in the second year if the population after second year is 21600 then find the initial population

6. The price of a machine get depreciate every year by 10% if its initial price is 1000000 then find its price after 3 years

7. A person spends 10% of his income on food 20% of remaining income on household & 50% of remaining income on rent if he is still left with 3600 find his total salary

8. In an election between 2 candidates 20% of votes casted were declared invalid, winning candidate got 55% of valid votes and he won by the majority of 6400 votes find the total number of votes casted

Restoring the Previous Value

1. If the price of petrol got increased by 25% by what percentage the consumption should be reduced so that the expenditure remains the same?

2. If the price of petrol got decreased by 30% by what percentage the consumption should be increased so that the expenditure remains the same?

3. If the salary of a person got decreased by 20% by what percentage his salary should be increased so that his salary remains the same?

4. If the length of rectangle got increased by 40% by what percentage breadth of rectangle should be decreased so that area remains the same?

5. Due to reduction in price of mangoes by 20% a person gets 3 mangoes more for 120 rupees; find the initial price of the each mango

6. Due to increment in price of eggs by 30% a person gets 3 eggs less for 91 rupees; find the new price of each egg

Venn Diagrams & Set Theory

1. In a sports club 60% students plays cricket while 50% plays football & 10% plays both if 120 players only plays football

i. Find how many players are there in the club

ii. Find how many plays only cricket

2. In a colony 35% people read newspaper A while 45% people read newspaper B & 15% reads both if 140 people reads none of the news paper

i. Find how many people read both the news paper

ii. Find how many reads exactly one news paper

Miscellaneous Questions

1. What % of 1 day is an hour?

2. If 20% of (M+N) = 50% of (M-N) then N is what % of M?

3. The population of a village is 5000 if male population got increased by 10% and female population got increased by 20% the overall population becomes 5600 find the number of male before increment?

4. A student multiplied a number with $\frac{3}{5}$ instead of $\frac{5}{3}$ find the % error in the result

5. If 10% of the numerator is increased and 20% of denominator is decreased the new value of fraction becomes $\frac{3}{5}$ find the original fraction

Profit & Loss

Finding CP, SP or number of articles: -

Question 1:-A Person bought an article at 500 rupees at what price he should sell it to get 20% profit.

Question 2:-A Person bought an article at 400 rupees at what price he should sell it to get 20% loss.

Question 3:-A Person sold an article at 600 rupees and he incurs a loss 25% find the CP of the article

Question 4:-A Person bought a second hand bike for 30000 he spends 5000 for its repairing at what price he should sell the bike to get the profit of 25%

Question 5:-A Person bought 10 watches for 2000 at what price he should sell each watch to get the profit of 50%

Question 6:-A Person bought 6 mangoes for 50 at what price he should sell 4 mangoes to get the profit of 20%

Question 7:-Oranges are bought at the rate of 7 for rupees 3 at what rate per hundred must be sold to get 33% profit

Question 8:-A person bought 100 flowers for 300 rupees but 10 flowers are rotten, at what price he should each of the remaining flowers to get 20% profit

Finding $SP_1, SP_2,$ $no\ of\ artices$: -

Question 1:-A Person sold an article at 200 rupees and gets a loss of 20% at what price he should sell it to get 20% profit.

Question 2:-A Person sold a notebook at 42 rupees and he gets a profit of 5% at what price he should sell it to get the profit of 25%

Question 3:-A Person sold a TV in 500 and a radio in 270 & gets a profit of 10% if he would have sold TV in 380 and radio at its cost price then he would have got 10% loss find the CP of Radio

Question 4:-By selling 12 oranges for 60 rupees a person gets a loss of 25% How many oranges he should sell for rupees 100 to get 25% profit

Question 5:-By selling 20 articles for 50 rupees a person gets a loss of 20% at what price he should sell 16 articles to get 60% profit

"Had it been sold" questions: -

Question 1: - A person sold an article at 7% loss had it been sold for 64 rupees more there would have been a profit of 9% find the Cost price of the article

Question 2: - A cooker is sold at a gain of 16% had it been sold for 20 rupees more the gain would have been 20% find the Cost price of the cooker

Question 3: - An article is sold at a gain of 20% had it been sold for 50 rupees less then there would have been a loss of 20%. At what price he should sell it to get the profit of 40%

Question 4: - A Shopkeeper sold an article for 5% loss. If he had bought it for 10% less and sold it for 33 rupees more he would have got 30% profit. Find the Cost Price of the article.

Question 5: - A Shopkeeper sold an article for 10% loss. If he had bought it for 20% less and sold it for 120 rupees more he would have got 50% profit. Find the Cost Price of the article.

Goods Passing through successive hands: -

Question 1: - A sell a bicycle to B at 20% profit while B sell to C at 25% profit. If C pays rupees 225 for it the cost price of bicycle for A is

Question 2: - A bought an article for 300 and sold it to B at 20% profit while B sells to C at 10% loss. At what price C purchased the article

Finding profit or Loss percentages: -

1. If CP=500 & SP=600 find profit%

2. If CP=400 & SP=300 find loss%

3. If the ratio of CP & SP is 20:23 find the profit/loss%

4. A shopkeeper purchases 20 mangoes for 30 rupees and he sells every 15 mangoes for 27 rupees find his profit/loss%

5. A shopkeeper purchases 11 pens for 10 rupees and he sells every 10 pen for 11 rupees find his profit/loss%

6. If CP of 15 articles is as same as SP of 20 articles then find the profit/loss%

7. A dishonest salesman professes to sell his goods at no profit no loss but he uses a weight of 800 grams instead of 1kg find his profit%

8. A dishonest salesman sells his goods at 20% profit & he also uses a weight of 800 grams instead of 1kg find his profit%

Miscellaneous questions: -

1. A fruit seller sell fruits at 44rs/kg and gains a profit of 10% how many kg's of fruits he should sell to get a profit of 52 rupees.

2. A shopkeeper sells radio at 720 rupees & earns a profit of 20% if he sells 10 radio daily then find his monthly profit of 30 days.

3. If selling price is doubled then profit earned on article becomes 4 times find the original profit%

4. Two articles are sold at same price one on profit of 20% and other on loss of 20% find the overall profit or loss%

5. A person sells 100kg of sugar partly at 7% profit and remaining at 17% profit, if the overall profit earned by him is 10% then find how many kg's of sugar is sold at 7% profit

Simple Interest

Basic Questions: -

1. If 5000 are invested at 8%pa for 6 years find the Simple interest earned?

2. At what rate of interest 4000 would yield SI of 1280 in 4 years?

3. In how many years 1200 will yield an SI of 216 at 6%pa?

4. What sum of money will earn SI of 1750 in 5 years at 7%pa?

5. The sum of 2500 amounts to 4100, if the rate of interest & Time Duration are numerically equal find Rate?

6. What sum of money will earn SI of 1000 in 10 months at 24%pa?

7. Find the SI earned if 3000 are kept for the period from 5th January 2017 to 31st of May 2017 at 10% pa SI

$SI_1 = SI_2$: -

1. In what time will 8000 at 3%pa, produce the same interest as 6000 does in 5 years at 4%pa SI?

2. What sum of money will yield the same SI at 5%pa for 4 years as 8000 does in 6 years at 5%pa?

3. A sum of Rs. 2800 is divided into 2 parts such that the interest on both the parts is equal. If the first part is lent at 9%pa for 5 years & second part at 10%pa for 6 years find the two parts?

4. A sum of Rs. 10000 is divided into 2 parts, if the first part is lent at 4%pa for 8 years & second part at 8%pa for 6 years find the two parts, if the interest on both the parts is equal

$SI_1 + SI_2$: -

1. A lent 6000 to B for 2 years & 1500 to C for 4 years at the same rate of interest if the total SI received by A is 900 find the rate of interest?

2. A lent 5000 to B for 2 years & 3000 to C for 4 years at the same rate of interest & received total 2200 as SI from both find the rate of interest?

3. A lent 2500 to B for 2 years & a certain amount to C for 3 years at 10%pa & received total 1400 as SI from both, find the amount lent to C?

4. A person lent 5000 partly at 4%pa & remaining at 5%pa. The total interest received after 2 years is 440 find the two parts

5. A person lent 1500 partly at 10%pa & remaining at 7%pa. The total interest received after 3 years is 396 find the two parts

$SI_1 - SI_2$: -

1. A lent a same amount to B & C for 3 years & 4 years at 5%pa, if the difference between SI received is 42 rupees find the Principal amount?

2. A lent a 1500 to B & C for 3 years each, if the difference between SI received is 13.5 rupees find difference between rates of interests?

Amount becomes A_1 in t_1 years & A_2 in t_2 years: -

1. A sum of money lent at SI amounts to 880 in 2 years & 920 in 3 years find the sum & Rate of interest?

2. What sum of money will amounts to 520 in 5 years & 568 in 7 years at a certain rate of SI?

3. A sum of money will amounts to 756 in 2 years & 873 in $3\frac{1}{2}$ years at a certain rate of SI, find the Rate of interest?

4. What sum of money will amounts to 720 in 2 years & 1020 in further 5 years at a certain rate of SI?

Amount becomes n times principal

1. At what rate of SI the amount becomes double the principle in 10years

2. In how many years the amount becomes four times the principle at 25%pa SI

3. In how many years the amount becomes $\frac{41}{25}$ times the principle at 8%pa SI

4. If amount becomes double in 10 years at a certain rate of SI in how many years it will become 4 times at the same rate

5. If amount becomes triple in 17 years at a certain rate of SI in how many years it will become 7 times at the same rate

'Had it been' questions

1. A sum was invested at a certain rate for 2 years had it been kept at 2% higher rate it would have fetched 72 rupees more, find the sum

2. A sum was invested at a certain rate for 3 years had it been kept at 1% less rate it would have fetched 48 rupees less, find the sum

3. A person loses 55.5 rupees annually when the rate of interest falls from 11.5 to 10% finds his capital

Compound Interest

Finding CI: -

Find CI if

1. P=1000, R=10%pa, T=3years

2. P=500, R=20%pa, T=3years

3. P = 2000 R = 20%pa T = 2 years

4. P = 2000 R = 10%pa T = $2\frac{1}{2} years$

5. P = 6400 R = 25%pa T = 15 months

6. P = 2000 R=20% T =2 years, amount is compounded half yearly.

Finding P, R & T: -

1. What sum of money will earn 420 rupees as CI in 2 years at 10% per anum?

2. What sum of money will earn a compound interest of 81 rupees in 3 years at 20% pa?

3. In how many years 500 rupees will earn a CI of 364 at 20%pa?

4. In how many years 2000 rupees will become 2420 at 10%pa?

5. At what rate of interest 3000 will become 3993 in 3 years.

6. If 6400 rupees are invested and they become 10000 in 2 years then find the rate of interest?

Amount becomes $A_1 \; in \; t_1$ years & $A_2 \; in \; t_2$ years: -

1. A sum of money amounts to 4840 in 2 years & 5324 in 3 years at CI compounded annually find the rate of interest per anum?

2. A sum of money amounts to 3840 in 4 years & 3936 in 5 years at CI compounded annually find the rate of interest per anum?

3. A sum of money amounts to 1440 in 2 years & 1728 in 3 years at CI compounded annually find the rate of interest per anum?

4. A sum of money amounts to 7000 in 4 years & 10000 in 8 years at CI compounded annually find the initial Sum?

5. A sum of money amounts to 650 in 1 year & 676 in 2 years at CI compounded annually the Sum of money kept was?

6. A sum of money amounts to 4500 in 2 years & 6750 in 4 years at CI compounded annually the initial Sum is?

Amount becomes n times principal: -

1. A sum of money becomes double in 3 years at a certain rate of CI compounded annually, in how many years the sum of money will become 4 times at the same rate of CI?

2. A sum of money becomes 8 times in 6 years at a certain rate of CI compounded annually, in how many years the sum of money will become 16 times at the same rate of CI?

3. A sum of money becomes triple in 5 years at a certain rate of CI compounded annually, in how many years the sum of money will become 27 times at the same rate of CI?

Relation between 2 years CI, SI & R: -

1. If the compound interest on a certain sum for 2 years is 406 rupees at 3% pa then find the simple interest on the same sum for the same time?

2. If the compound interest on a certain sum for 2 years is 328 rupees at 5% pa then find the simple interest on the same sum for the same time?

3. If the SI on a sum of money at 4%pa for 2 years is 80 then find the CI on the same sum for the same time?

4. If the compound interest on a certain sum for 2 years is 246 rupees at 5% pa then find the simple interest on the same sum for 3 years?

5. If the compound interest on a certain sum for 2 years is 40.8 rupees & the simple interest on the same sum for the same time is 40 rupees then find the rate of interest?

Difference between CI & SI for 2 & 3 years: -

1. If the difference between CI & SI on a certain sum for 2 years at 5%pa is 15 rupees then find the sum?

2. Find the difference between CI & SI on 2500 for 2 years at 4% pa

3. If the difference between CI & SI on 1000 rupees for 2 years is 10 rupees then find the rate of interest?

4. If the difference between CI & SI on a certain sum for 3 years at 5%pa is 61 rupees then find the sum?

5. If the difference between CI & SI on a certain sum for 3 years at 10%pa is 31 rupees then find the sum?

Time & Work

Chain Rule: -

Q1: - 10 men can finish a job in 12 days, how many men can finish the same job in 8 days?

Q2: - 50 men can finish a job in 30 days, if 100 more men join then in how many days the same job will be finished?

Q3. 30 men can finish a job in 18 days working 7 hours a day, how many men can finish the same work in 30 days if they are working 6 hours a day

Q4. 3 pumps working 8 hours a day can empty a tank in 2 days how many hours a day 4 pumps work to empty a tank in 1 day?

Q5. If 10 men can build a wall of 15 meters in 18 days, how many men will be needed to build a wall of 40meters in 30 days?

Q6. 12 Carpenters working 6 hours per day, can make 460 chairs in 24 days, how many chairs will 18 carpenters make in 36 days working 8 hours per day

Q7: - 20 men finished one-third of the work in 10 days, how many more men should be appointed to finish the remaining work in 5 days?

Q8: - 10 men are appointed to finish a work in 12 days. After 8 days, only one fifth of the work is completed. How many more men are to be employed so that the work may be completed in time?

Q9. 15 men can finish a job in 21 days working 8 hours a day, in how many days 21 women can finish the job working 6 hours a day if 3 women are as efficient as 2 men.

Q10. 9 engines consume 24 tons of coal when each is working 8 hours a day how much coal will be required for 8 engines each running 13 hours a day if 3 engines of former type consume as much coal as 4 engine of latter type

Q11. 12 men can finish a job in 8 days, they worked for 6 days & after that 4 men left the job, in how many days remaining men will finish remaining work?

Q12. In a camp 95 men had provision for 200 days. After 5 days 30 men left the camp. For how many days will the remaining food last now?

Q13. A garrison of 500 men had provision for 27 days. After 3 days 300 men joins. For how many days will the remaining food last now?

Q14. 50 men can finish a job in 34 days, they started working together but after every 10 days 5 men left the job in how many days the total work will be finished

Q15. 6 engineers can build a computer server in 10 hours, they started working at 11:00 am & they worked till 5:00pm after that 1 engineer joins them every hour at what time the server will be built

Men, Women & Boys: -

Q1: - 5 men can finish a job in 4 days while 3 women can finish the same job in 10 days, how many days will 4 men and 9 women take to finish the job?

Q2: - 5 men can finish a job in 6 days while 10 women can finish the same job in 5 days, how many days will 3 men and 5 women take to finish the job?

Q3: - 3 men or 6 women can finish the same job in 10 days, how many days will 8 men and 4 women take to finish the job?

Q4: - One man, one woman and one boy can finish a job in 20, 30 and 60 days respectively in how many days 2men, 8women and 8 boys can finish the same work?

Q5: - 6 men or 9 women can finish the same job in 10 days, 5 men started working together and they worked for 6 days after that all of them left the job and 15 women joins, in how many days they will finish the remaining work?

Q6. 12 boys can finish a work in 16 days & 8 men can finish the same job in 12 days, 16 men started working together and they worked for 3 days after that 10 of them left the job and 4 boys join, in how many days they will finish the remaining work?

Q7. 6 men or 9 women can finish the same job in 10 days, 5 men started working together and they worked for 6 days after that all of them left the job, how many women should join to finish the remaining work in 5 days?

Q8. 2 men & 3 boys can finish a job in 10 days while 3 men & 2 boys can finish the same job in 8 days. In how many days 2 men & 1 boy can finish the job

Working Together: -

1. If "A" can finish a particular job in 10 days while "B" can finish the same job in 15 days, working together in how many days they will finish the job?

2. If A can finish a particular job in 20 days while B can finish the same job in 24 days & C can do this job in 30 days, working together in how many days they will finish the job?

3. If A can finish a particular job in 20 days while A and B working together can finish the same job in 12 days in how many days B alone can finish the job?

4. If A can finish a particular job in 20 days while B finish the same job in 30 days, with the help of C they finished it 10 days in how many days C alone can finish the job?

5. If A and B can finish a particular job in 12 days while B & C can finish the same job in 15 days, & C and A can finish the same job in 20 days in how many days A, B & C will finish the job if they are working together?

6. A can cultivate $\frac{2}{5}th$ of the land in 6 days while B can cultivate $\frac{1}{3}rd$ of the land in 10 days. Working together A & B can cultivate $\frac{4}{5}th$ of the land in;

7. If A can finish a particular job in 20 days while B can finish the same job in 25 days, A started working alone and he worked for 11days after which B joins him in how many days they finished the remaining work?

8. If A can finish a particular job in 30 days while B can finish the same job in 60 days, A and B started working together and they worked for 15 days after which A left the job in how many days B finished the remaining work?

9. If A and B can finish a particular job in 12 days while B & C can finish the same job in 16 days, A & B worked for 5 days after that A left & C joins, B & C worked for 7 days after that B left & C finished the remaining work in 7 days in how many days C alone can finish the work?

10. A & B can finish a work in 20 & 30 days respectively they worked together for some days after that B left and A completes the remaining work in 10 days for how many days B worked;

11. A & B can finish a job in 9 & 18 days respectively. They started working together but A left the job 3 days before completion of the work in how many days the work is completed

12. A finishes $\frac{4}{5}th$ of the work in 20 days Then he calls B to finish the remaining work in 3 days. In how many days B alone can finish the whole work

13. A & B can finish a work in 24 days they worked together for 15 days after that B left the job & A finishes the remaining work in 15 days in how many days B alone can finish the same job

14. A & B can finish a job in 10 days while B & C can finish the job in 15 days. First A worked for 3 days then B for 6 days and after that C finishes the remaining work in 18 days. In how many days C alone can finish the job?

Working Alternately: -

Q1. A can finish a work in 10 days while B can finish the same work in 15 days in how many days the work will be finished if A & B works alternately (starting with A)

Q2. A can finish a work in 18 days while B can finish the same work in 27 days in how many days the work will be finished if A & B works alternately (starting with A)

Q3. A can finish a work in 12 days while B can finish the same work in 18 days & C can finish it in 30 days working alternately in how many days the work will be finished (starting with A)

Q4. A can finish a work in 11 days while B can finish the same work in 20 days & C can finish it in 55 days in how many days the work will be finished if A gets assisted by B&C on every alternate day?

Q5. A can finish a work in 15 days while B can finish the same work in 30 days & C can finish it in 60 days in how many days the work will be finished if A gets assisted by B&C on every third day?

Works & Wages: -

1. If "A" can finish a particular job in 10 days while "B" can finish the same job in 15 days if they get 200 Rs. find the share of A?

2. If A can finish a particular job in 20 days while B can finish the same job in 24 days & C can do this job in 30 days if they get 3000 for the work then find the shares of C?

3. If A can finish a particular job in 20 days while A and B working together can finish the same job in 12 days if they get 500Rs. Find the share of B?

Pipes & Cisterns: -

1. Two pipes A and B fill a tank in 20 minutes and 30 minutes respectively and pipe C will empty tank in 60 minutes. If all three are open, how much time will it take to fill an empty tank?

2. A water tank is filled up by a tap in 6 hours and emptied by a drain in 9 hours. If both are kept open, how long will it take to fill up completely a half-filled tank?

3. Pipes A and B can fill a tank in 30 & 45 min respectively. To fill the half tank only pipe A is open and for the other half both pipes A and B are open, what is the total time taken to fill up the tank?

4. A pipe A can fill a tank in 30 minutes while pipes A and B together can fill the tank in 20 minutes. If pipe B can pump 6 liters of water in one minute, find the capacity of the tank.

5. Pipes A, B and C can fill a tank in 12 minutes, 36 minutes and 18 minutes respectively. If all time pipes are open, then after what time C must be closed so that the tank is full in 8 minutes?

Efficiency based questions: -

1. If "A" is twice as good workman as B and working together they can finish the job in 14 days in how many days A alone can finish the same job?

2. If "A" is thrice as good workman as B and working together they can finish the job in 15 days in how many days B alone can finish the same job?

3. If "A" is twice as good workman as B and B is thrice as good workman as C working together they can finish the job in 6 days in how many days B and C together can finish the same job?

4. If "A" is twice as good workman as B and B is twice as good workman as C working alone A can finish the job in 15 days in how many days B and C together can finish the same job?

5. If "A" is 25% more efficient than B and working together they can finish the job in 20 days in how many days A alone can finish the same work?

Time Speed & Distance

Questions on trains: -

Type 1: -

1. A train of length 100 meter can cross an electric pole in 10 seconds find the speed of train in km/h

2. A train of length 200 meter is running at a speed of 30kmph find the time taken by it to cross a man standing near railway line?

3. A train of which is running at a speed of 63kmph crosses a tree in 16 seconds, find the length of train?

4. A train of covers a distance of 12km in 10 minutes it crosses a man in 6 seconds, find the length of train?

5. A train consists of 12 bogies (inclusive of the engine). Each bogie is 15m long. The train crosses a telegraph post in 18 seconds. Due to some problem two bogies were detached. Moving at the same speed the train now crosses the telegraph post in how many seconds?

Type 2: -

1. A train of length 100m can cross a bridge of length 500m in 30 seconds find the speed of train in km/h

2. A train 700 m long is running at a speed of 72 km/hr. If it crosses a tunnel in 60 sec, then find the length of the tunnel (in meters).

3. A train 360 m long is running at a speed of 45 km/hr. Find the time taken by it to cross a tunnel 140m long.

4. A train of length 100m can cross a pole in 10seconds and bridge in 30seconds find the length of bridge?

5. A train passes an electric pole in 5 seconds and a platform 150 m long in 20 seconds. Find the length of the train.

Type 3: -

1. A train 150 m long is travelling at a speed of 56 km/hr. What is the time in which it will pass a man walking in the same direction at 2 km/hr?

2. A train of length 1000m is running at the speed of 60km/h, from the opposite direction Rajnikanth is walking and he crosses the train in 10 seconds, find the speed of Rajnikanth.

3. Two trains travel in opposite directions at 36 km/h and 45 km/h respectively. A man sitting in the slower train passes the faster train in 8 s. The length of the faster train is

Type 4: -

1. Two trains whose lengths are 180 m and 220 m respectively are running in direction opposite to one another. If their velocities are 40 km/h and 50 km/h, Find time taken by them to cross each other

2. Two trains of equal lengths are running on parallel tracks and in the same direction at speeds of 90 km/h and 54 km/h. The faster train passes the slower train in 20 seconds. Find the length of each train.

Relative Speed: -

1. Two cities P and Q are 110 km apart. Train A started from city P at 7 a.m. at 20 km/hr and B started from city Q at 8 a.m. at 25 km/ hr. At what time will they meet?

2. Mumbai and Delhi are 600 km apart. Train A started from Mumbai at 6 a.m. at 40 km/h and B started from Delhi at 10 a.m. at 70 km/ h. At what time will they meet?

3. City P and Q are 900 km apart. Train A started from P at 11 a.m. at 50 km/h and B started from Q at 3 p.m. if they meet each other at 8p.m. find the speed of train B?

4. A thief absconded from police station at 5am with the speed of 8kmph. A policeman started chasing him at 9am with the speed of 12kmph at what time the policeman will catch the thief?

5. A bus started travelling from point ‘P’ at 10am with the speed of 50kmph. A car started chasing

him at 2pm from point P and it overtakes the bus at 7pm find the speed of car?

Proportionality based questions: -

Distance constant: -

1. A and B are travelling a certain distance with the speed of 30 and 40 kmph. If A takes 7hrs more than B to travel the same distance find the time taken by B to travel the distance

2. A bus and a car are travelling a from Mumbai to Pune with the speed of 40 and 60 kmph. If a car takes 1hr less than bus to travel the distance find the distance between Mumbai and Pune.

3. Travelling at the speed of 10kmph a person reaches his destination late by 2hrs while, travelling the same distance at 15km he reaches 1hr early, find the distance to be travelled.

4. Walking at ¾ of his usual speed, a man reaches his office late by 15 minutes find his usual time to reach office.

5. A boy goes from his home to school with the speed of 10kmph and he returns back with the speed of 20kmph find the distance from his home to school if he takes total 3hrs for the total journey.

Time Constant: -

1. A policeman saw a thief 500m away from police station he started chasing him with the speed of 12kmph while thief started running at the speed of 8kmph how far from police station the thief will be caught

2. Salman started walking towards Katrina's house at the speed of 15kmph and at the same time Katrina also started walking towards Salman's house at the speed of 10kmph when they met each other at that time Salman has travelled 30km more than Katrina. Find the distance between their houses

3. A & B started walking from P to Q that is 21km with the speed of 3 & 4 kmph respectively. B reaches Q & immediately returns back & meets A at point R. Find the distance PR.

Average Speed Questions: -

1. A travels from his home to office with the speed of 4kmph and returns back with the speed of 6kmph find his average speed for the whole journey

2. A travels from Mumbai to Pune with the speed of 60kmph and returns back with the speed of 90kmph find his average speed for the whole journey

3. A travels from Mumbai to Pune with the speed of X kmph and returns back with the speed of Y kmph find his average speed for the whole journey

4. A person travels along three sides of an equilateral triangle with the speed of 20, 30 & 60 kmph respectively find his average speed for the whole journey

5. A person travels for 12 minutes with the speed of 30kmph and another 8 minutes with the speed of 45 kmph find his average speed for the whole journey

6. A person travels a distance of 24 km at 6kmph another 24km at 8kmph and 24km again at 12kmph find his average speed for the whole journey

Miscellaneous Questions: -

1. Without stoppage, a bus travels at a speed of 75kmph while with stoppages it travels at a speed of 60kmph find its stoppage time per hour

2. A person can travel a certain distance by walking and returns back by driving in 37 minutes, if he walks both the way he will take 55 minutes to cover the distance find the time taken by him to cover both the ways while driving

3. An airplane was traveling a distance of 4800km but due to bad whether it reduces its speed by 400kmph and hence reaches its

destination 2 hours late. Find the scheduled duration of the flight and the original speed of airplane

4.Two trains 120km away from each other are moving towards each other on a parallel track with the speed of 60kmph each. A bird started flying along first train with the speed of 180kmph it reaches the top of second train and immediately returns back towards first train it repeats the same process until the two trains meet each other find the distance travelled by bird in the whole process

Boats & Streams: -

1. If the speed of boat in Upstream direction is 12kmph while in downstream it is 28kmph find the speed of boat in still water and rate of current

2. A man covers 15km against the stream in 5 hrs. while 24 km along the stream in 3 hrs. find the speed of boat in still water and rate of current

3. The speed of boat in still water in 8kmph while its speed against the current is 5kmph find the speed of boat along the stream

4. A man can travel 40km in downstream direction in 5hrs if the rate of current is 2kmph then find the time taken by man to travel 24km in upstream direction

5. A man can travel a certain distance in downstream direction in 6 hrs to cover the same in upstream it will take him 9 hrs find the speed of boat in still water if rate of current is 3kmph also find the distance to be travelled

Permutations and Combinations

Basic Questions: -

1. In how many ways all the letters of word "DONUT" can be arranged to make a 5 letter word?

2. In how many ways a 4 digit number can be formed using 1, 2, 3, 4, 5 and 6 exactly once?

3. In how many ways a 4 letter word can be formed using all the letters of word LOGARITHMS?

4. In how many ways first second and third prize can be distributed to 7 finalists?

Condition based questions on Numbers without zero: -

In how many ways a 4 digit number can be formed using 1, 2, 3, 4, 5 and 6 in such a way that repetition of digits is not allowed and the number formed is: -

i. Even number

ii. Odd number

iii. Multiple of 5

iv. Greater than 3000

v. Less than 5000

In how many ways a 4 digit number can be formed using 1, 2, 3, 4, 5 and 6 in such a way that repetition of digits is allowed and the number formed is: -

i. Even number

ii. Odd number

iii. Multiple of 5

iv. Greater than 3000

v. Less than 5000

Condition based questions on Numbers with zero: -

In how many ways a 4 digit number can be formed using 0, 1, 2, 3, 4 and 5 in such a way that repetition of digits is not allowed and the number formed is: -

i. Even number

ii. Odd number

iii. Multiple of 5

iv. Greater than 3000

v. Less than 5000

In how many ways a 4 digit number can be formed using 0, 1, 2, 3, 4 and 5 in such a way that repetition of digits is allowed and the number formed is: -

i. Even number

ii. Odd number

iii. Multiple of 5

iv. Greater than 3000

v. Less than 5000

Questions Based on finding the sum of all numbers: -

1. Find the sum of all the 4 digit numbers that can be formed using 2, 3, 4 and 5 exactly once.

2. Find the sum of all the 4 digit numbers that can be formed using 2, 3, 4 and 5 if repetition of digits is allowed.

3. Find the sum of all the 3 digit numbers that can be formed using 1, 2, 3, 4 and 5 if repetition of digits is allowed.

4. Find the sum of all the 4 digit numbers that can be formed using 0, 1, 2, 3 and 4 if repetition of digits is allowed.

Condition based questions on Letters: -

1. In how many ways all the letters of word "DETAIL" can be arranged so that vowels occupy odd positions?

2. In how many ways all the letters of word "DONUT" can be arranged so that vowels occupy extreme positions?

3. In how many ways all the letters of word "MACHINE" can be arranged so that consonants occupy odd positions?

Questions based on Vowels together, Vowels not together, Consonants together and Consonants not together: -

1. In how many ways all the letters of word "OPTICAL" can be arranged so that vowels are always together?

2. In how many ways all the letters of word "SOFTWARE" can be arranged so that vowels are always together?

3. In how many ways all the letters of word "MOTHER" can be arranged so that vowels are never together?

4. In how many ways all the letters of word "EQUATION" can be arranged so that vowels are never together?

5. In how many ways all the letters of word "JUDGE" can be arranged so that consonants are always together?

6. In how many ways all the letters of word "AUCTION" can be arranged so that consonants are always together?

7. In how many ways all the letters of word "RELATION" can be arranged so that consonants are never together?

Questions based on repeating latters: -

1. In how many ways all the letters of word "RUMOUR" can be arranged?

2. In how many ways all the letters of word "ALLAHABAD" can be arranged?

3. In how many ways all the letters of word "ENGINEERING" can be arranged?

4. In how many ways all the letters of word "COFFEE" can be arranged so that vowels are always together?

5. In how many ways all the letters of word "LEADER" can be arranged so that vowels are never together?

6. In how many ways all the letters of word "CORPORATION" can be arranged so that vowels are always together?

Finding Rank of the word: -

1. If all the letters of the word "WOMAN" are arranged to make a 5 letter word and all the words are kept in alphabetic order then find the rank of the word "WOMAN"

2. If all the letters of the word "RAHUL" are arranged to make a 5 letter word and all the words are kept in alphabetic order then find the rank of the word "RAHUL"

3. If all the letters of the word "MOBILE" are arranged to make a 6 letter word and all the words are kept in alphabetic order then find the rank of the word "MOBILE"

4. If all the letters of the word "APPLE" are arranged to make a 5 letter word and all the words are kept in alphabetic order then find the rank of the word "APPLE"

Questions on Combinations:-

1. In how many ways 4 members out of 7 can be selected?

2. In how many ways a group of 3 boys and 2 girls can be selected out of 5 boys and 4 girls?

3. In how many ways, a group of 5 members can be selected out of 5 boys and 4 girls, in such a way that the group should consist of at least 3 boys

4. A bag consists of 2 Red, 3 black and 4 blue balls. In how many ways 2 balls can be drawn at random so that at least one of them is black?

5. In a seminar 20 people participated and every person shakes hand with another, how many handshakes took place in the seminar?

6. In how many ways 20 English books and 17 Hindi books can be placed in a shelf so that no two Hindi books are together?

7. How many diagonals are there in an octagon?

8. There are two parallel lines in a plane consisting of 4 and 5 points respectively .How many triangles can be formed by joining these points?

9. An equilateral triangle consists of 4, 5 and 6 points respectively on its sides. How many triangles can be formed by joining these points?

Probability

Questions based on bags and balls

1. A bag consists of 3 Red, 4 Blue & 5 Green balls if two balls are drawn at random then find the probability that

i. both are red

ii. both are blue

iii. both are green

iv. both are same colour

v. one is red & other is blue

vi. none of the ball is blue

vii. at least one of the ball is blue

Miscellaneous questions on concept of bags and balls (language other than bags and balls): -

1. In a class of 15 boys and 10 girls, 3 students are selected at random find the probability that 2 boys and 1 girl are being selected?

2. A box consist of 20 bulbs out of which 4 are defective in how many ways 4 bulbs can be drawn at random so that 2 are defective?

Questions based on cards: -

1. From a pack of 52 cards if 2 cards are drawn at random then find the probability that both the cards are number card?

2. From a pack of 52 cards if 2 cards are drawn at random then find the probability that both the cards are red colour card?

3. From a pack of 52 cards if 2 cards are drawn at random then find the probability that both the cards are red colour card?

4. From a pack of 52 cards if 2 cards are drawn at random then find the probability that both the cards are from spade suit?

5. From a pack of 52 cards if 2 cards are drawn at random then find the probability that both the cards are from same suit?

6. From a pack of 52 cards if 2 cards are drawn at random then find the probability that none of the cards is from diamond?

7. From a pack of 52 cards if 2 cards are drawn at random then find the probability that either both the cards are red colour card or both are kings?

Questions on coins: -

1. If 5 coins are tossed at random find the probability that exactly 3 results are head

2. If 7 coins are tossed at random find the probability that at least 5 results are tails

3. If 4 coins are tossed at random find the probability that at most 2 results are heads

Questions on Dices: -

Q 1-4. A pair of dice is rolled. Find the probability that the two number

1. Forms a sum that is prime number.
2. Forms a sum that is less than 10
3. Sum that is divisible by 3 or 4
4. Forms a sum that is multiple of 2 as well as 3

Miscellaneous questions: -

Q 1-4. The probability that A will get a job is $\frac{2}{5}$ *while B will get the job is* $\frac{1}{3}$ find the probability that

1. Both of them will get the job
2. None of them will get the job
3. Exactly one of them will get the job
4. At-least one of them will get the job

Q 5-10. The probability that A, B & C will hit the target is $\frac{3}{10}, \frac{1}{2}, \frac{2}{5}$ respectively find the probability that

5. All of them will hit the target
6. Exactly one of them will hit the target
7. Exactly two of them will hit the target
8. None of them will hit the target
9. At-least one of them will hit the target
10. At-least two of them will hit the target

Coding-Decoding

Coding for shifting letters: -

Q1. If RED is coded as SGG then find the code for YELLOW

Q2. If MOBILE is coded as PRELOH then find the code for SMARTPHONE

Q3. If TABLE is coded as UYEHJ then find the code for CHAIR

Q4. If PHP is coded as QLY then find the code for JAVA

Coding with shuffling letters: -

Q1. In a certain language if the word CHAIR is coded as RIAHC then find the code for DESK

Q2. In a certain language if the word MUMBAI is coded as UMBMIA then find the code for PUNE

Q3. In a certain language if the word DEHLI is coded as EDHIL then find the code for ORIYA

Q4. In a certain language if the word KATRINA is coded as TAKRANI then find the code for DEEPIKA

Shifting & Shuffling combined together: -

Q1. In a certain language if the word CHAIR is coded as SJBID then find the code for DESK

Q2. In a certain language if the word MUMBAI is coded as VNCNJB then find the code for PUNE

Q3. In a certain language if the word DEHLI is coded as FEGJM then find the code for ORIYA

Q4. In a certain language if the word KATRINA is coded as UAJRBNH then find the code for DEEPIKA

Coding with Opposite Letters: -

Q1-4: - If REAP is coded as IVZK then find the code for following words

1. INTERNET 2. LAPTOP

3. MANAGEMENT 4. MONITOR

Numerical coding: -

Q1-3: - If ADD=9 then find the code for

1. MULTIPLY
2. DIVIDE
3. SUBTRACT

Q4. If ADARSH=45 & STOOL=76 then find the code for COLLEGE

Q5. If BORE=10 then find the code for HOTEL

Q6. If AUDIO=85 & VIDEO =80 then RADIO=?

Q7. If MUNNI= 43559 & SHEELA= 185531 then PINKY=?

Coding with Corresponding words/numbers: -

1. If **Fruits are sweet** is coded as 547**; Lets have Fruits** is coded as 352; **Fruits have Vitamins** is coded as 625, then **Vitamin** =?

2. If **Paper is tough** is coded as 138**; Solve the paper** is coded as 521; **Tough paper tests** is coded as 816, then **Tests** =?

Letter Series

1. A, C, E, G, __
2. Y, W, U, S, Q, O, M, __
3. JAK, KBL, LCM, MDN,__
4. AIU, CKW, ____, GOA
5. QON, MKJ, IGF, __
6. BD, EG, HJ, KM, _
7. KP, LO, MN, __
8. O, T, T, F, F, S, S, E, __
9. M, T, W, T, F, __
10. J, F, M, A, M, J, __

Number Series

Series based on Arithmetic Progression: -

1) 3, 4, 6, 9, 13, 18…..

2) 123, 146, 171, 198, 227…

3) 54, 70, 88, 108, 130…

4) 0, 6, 24, 60 , 120, 210, …

5) 6, 11, 21, 36, 56 ….

6) 5, 9, 17, 29, 45 ….

7) 5, 16, 49, 104 ….

8) 5, 6, 9, 15, 25, 40 ….

9) 20, 22, 26, 34, 50, 82 …..

10) 3, 12, 27, 48, 75, 108 ….

11) 12 19 35 59 90 ….

12) 25, 29, 20, 36, 11 ….

Series based on Common multiplying factor: -

13)5, 11, 24, 51, 106….

14) 3, 8, 22, 63, 185 ….

15) 13, 30, 66, 140, 290 ….

16) 5, 14, 40, 117, 347…..

17) 2, 9, 39, 161, 651….

18) 1, 6, 32, 163, 819 ……

Series based on increasing/decreasing multiplying factor: -

19) 2, 6, 21, 88, 445…..

20) 7, 13, 41, 161, 809……

21) 4, 10, 27, 112, 555 ….

22) 6, 14, 39, 160, 795….

23) 5, 12, 33, 136, 675…

24) 6, 16, 45, 184, 917….

Increasing/Decreasing multiplying factor variation: -

25) 18, 8, 6, 8, 24 ….

26) 15, 8, 9, 20, 84 ….

27) 17, 9, 10, 16.5, 35….

Alternating Series: -

28) 5, 6, 7, 8, 10, 11, 14……

29) 0, 2, 3, 5, 8, 10, 15, 17, 24, 26……

30) 3, 4, 7, 7, 13, 13, 21, 22, 31, 44….

Miscellaneous series: -

31) 1, 11, 21, 1211, 111221……

32) 111, 213, 141, 516, 171, 819, 202…..

33) 10, 40, 90, 61, 52, 63….

34) 3, 3, 5, 4, 4, 3, 5, 5, 4, 3…

35) 999, 729, 126, 12…..

36) 2, 10, 36, 80, 150, 252…..

37) 2, 4, 9, 28, 125, 726…..

38) 8, 9, 125, 49, 1331…..

39) 1, 2, 3, 3, 4, 7, 5, 6, 11…..

40) 1, 5, 9, 15….

Clocks

Finding angle between minute hand & hour hand: -

Find the angle between minute hand & hour hand when the time is: -

1. 7:30	2. 8:20	3. 6:15
4. 2:10	5. 4:30	6. 10:10

Finding time when angle is given: -

7. At what time between 6-7 minute hand & hour hand will coincide each other?

8. At what time between 3-4 minute hand & hour hand will coincide each other?

9. At what time between 4-5 minute hand & hour hand will make a right angle?

10. At what time between 2-3 minute hand & hour hand will make a right angle?

11. At what time between 7-8 minute hand & hour hand will be opposite to each other?

12. At what time between 9-10 minute hand & hour hand will be opposite to each other?

Frequencies of various angles: -

13. How many times in 1 day, minute hand & hour hand will coincide each other?

14. How many times in 1 day, minute hand & hour hand will be opposite to each other?

15. How many times in 1 day, minute hand & hour hand will make a right angle?

16. How many times in 1 day, minute hand & hour hand will be in straight line?

Mirror Image of a clock: -

Find the actual time when mirror image shows

17. 4:30
18. 6:15
19. 5:20
20. 12:30

Calendars

Finding day of a date: -

1-6: - Find the day of a date on

1. 15-08-1947	2. 26-01-1950
3. 18-12-1991	4. 26-11-2008
5. 04-07-1776	6. 15-10-2275

Finding day with respect to reference date: -

Question 1: - If 18/12/1991 is Friday Find the day on 15/6/1995

Question 2: - If 9/9/1994 is Tuesday Find the day on 12/5/1998

Finding date where year month and day is given: -

Q1. On what dates of December 1991 Wednesday will fall?

Q2. On what dates of June 1995 Friday will fall?

Finding repeating calendar: -

Question 1: - The calendar of year 1962 will be as same as calendar of which year?

Question 2: - The calendar of year 2020 will be as same as calendar of which year?

Finding day after N days: -

Q1. If today is Sunday find the day after 100 days?

Q2. If today is Tuesday find the day after 257 days?

Miscellaneous Questions: -

Q1. The last day of a century year cannot be

Q2. For how many years (maximum) a person has to wait for his next birthday

Q3. If 4 days before tomorrow is Monday then what will be the day on 4 days after yesterday?

Seating Arrangement

Q1-4: - M, N, J, V, A, D & R are sitting around a circular table facing center.

V is third to the right of J. R is on the immediate right of J. N is fourth to the left of R. A is fourth to the right of D who is not the neighbour of V.

Q1. Who is second to the left of N?

Q2. Who is fourth to the right of R?

Q3. Who is second to the right of J?

Q4. What is the position of M with respect to R?

Q5-8: - A, B, C, D, E, F, G & H are sitting around a circular table facing center.

D is fourth to the right of H & second to the left of B. F is fourth to the right of B. C is fourth to the right of E who is not the neighbour of B or D. A is not the neighbour of D.

Q5. Who is to the immediate left of D?

Q6. Who is third to the right of A?

Q7. Who is fourth to the left of G?

Q8. What is the position of B with respect to G?

Q9-12 A, B, C, D, E, F, G, H & I are sitting around a circular table facing center.

C is 3rd to the left of A. E is 4th to the right of A. D is 4th to the left of I who is second to the right of A. F is 3rd to the left of B. G is not the neighbour of A

9. What is the position of B with respect to G?

10. What is the position of I with respect to H?

11. Who are the two neighbours of A?

12. Who are the two neighbours of D?

Syllogism

Q1. Statement 1: - All Dogs are Cats
Statement 2: - All Cats are Rats

Conclusion 1: - All Dogs are Rats
Conclusion 2 : - Some Rats are Cats

Q2. Statement 1: - All Red are Blue
Statement 2: - All Blue are Green
Statement 3: - Some Green are yellow

Conclusion 1: - All Green are yellow
Conclusion 2 : - Some Yellow are blue
Conclusion 3 : - Some Green are Red

Q3. Statement 1: - All Dogs are Cats
Statement 2: - All Cats are Rats
Statement 3: - No Rat is Bird

Conclusion 1: - No Cat is bird
Conclusion 2: - Some Dogs are not Bird

Q4. Statement 1: - Some Pen are paper
Statement 2: - All Paper are scale
Statement 3: - No Scale is marker

C1: - No Marker is pen
C2: - Some pen are not marker

Q5. Statement 1: - Some Tree are paper
Statement 2: - Some paper are pen
Statement 3: - All pen are Car
Statement 4 : - All car are Truck
Statement 5 : - No truck is cycle

C1 : - Some paper are not cycle
C2 : - Some cycle are not tree
C3 : - Some Car are not cycle

Q6. Statement 1: - Some Woods are Chairs
Statement 2: - All chairs are Stones
Statement 3 : - No Wood is Table

C1 : - No stone is table
C2 : - Some stones are not table
C3 : - Some woods are not chair

Direction

Finding Direction & Distance with respect to starting point: -

1. A person started from his house, travelled a distance of 12m west, and then travelled a distance of 10m north, and then he took right & travelled 3m, he again took right & travelled 10m. At present how far is he from his house?

2. Tushar travels 4 km towards north and then travels 5 km east. He then turns right to travel 10 km and then turns left to travel 3 km and finally turns north to travel 6 km. How far is he approximately from his original destination?

3. Sahil travels 12 km in the south and then travels 5 km to the right and then travel 15 km towards the right and finally travels 5 km towards the east .How far is he from the starting place?

4. Dhruv starts from his house, travels 5 km to the west, then travels 7 km to the right and then travels 4 km to the left after which he travels 2 km south and finally travels 3 km west. How far has he travelled from his house?

5. A person travels 15km in east direction then he took left and travelled 16km he again took left & travelled 3km how far he is from the starting point.

Finding direction based on angles: -

1. A person is facing north, he took a turn of 45^0 in clockwise direction then he turns 90^0 in anticlockwise direction & finally he turns 135^0 in clock wise direction in which direction he is facing now?

2. A person is facing east, he took a turn of 90^0 in clockwise direction then he turns 135^0 in anticlockwise direction & finally he turns 90^0 in clock wise direction in which direction he is facing now?

Direction Swapping: -

1. If South-East becomes North, North-East becomes West, and so on, what will South become?

2. A wall clock shows 7:30. If the minute hand points towards east, in what direction will the hour hand point?

3. A watch is so placed that at 3:00 the minute hand points towards north-west. In which direction does the hour hand point at 6:00?

Shadow Problems: -

1. In the morning time two friends A & B are talking to each other face to face, if the shadow of B fell exactly to the left of A then in which direction B is facing?

2. In the morning time two friends A & B are talking to each other face to face, if the shadow of B fell exactly to his own right then in which direction A is facing?

3. In the evening time A was facing a pole, if the shadow of pole fell exactly to his right then in which direction A is facing?

Blood Relationship

Questions based on family tree: -

1. A is brother of B, B is son of C, D is wife of C, E is father of D then how A is related to E?

2. A & B are brothers, C & D are sisters A's son E is a brother of C how B is related to D?

3. If A is mother of B, C is son of A, D is brother of E, E is daughter of B then who is grandmother of D?

Q4-6: - In a family, A is husband of B, C is son of a A & D is daughter of B, F is daughter of G , G is father of F

4. How A is related to F?
5. How C is related to B?
6. How G is related to B?

Questions based on 'Pointing towards': -

1. Pointing towards a photograph of a man Anil said, "He is the son of the only brother of my father's wife" how that man is related to Anil.

2. Pointing towards a photograph Anjali said, "He is only son of the father of my sisters brother" how that person is related to Anjali?

3. Pointing towards a photograph a man said, "She is the daughter of the only son of my fathers wife" how that person is related to Anjali?

4. Pointing to a man a woman said, "He is the brother of the daughter of the wife of my husband". How the man is related to woman?

5. X introduces Y saying, "He is husband of the grand-daughter of the father of my father" How Y is related to X?

Questions based on coded relations: -

A x B means A is the father of B .

A - B means A is the mother

A ÷ B means A is the son of B.

A= B means A is the daughter of B.

A + B means A is the brother of B

A * B means A is the sister of B.

1. Which of the following means P is a sister of Q?
(1) P + R - Q (2) Q – R * P

(3) P ÷ Q + R (4) Q + P = R

2. Which of the following means X and Y are sisters?
(1) Y * Z – X (2) Z – X * Y

(3) Y = Z – X (4) X * Y = Z

3. Which of the following means P is a grandmother of R?
(1) R + P ÷ Q (2) R * P – Q

(3) Q – R = P (4) P – Q – R

4. If P * R ÷ Q is given, which of the following is true?
(1) P and Q are sisters.
(2) P is a maternal aunt of R.
(3) P is a daughter of Q.
(4) Q is a father of P.

5. If R = P – Q is given, which of the following is true?

(1) R is a sister of Q.
(2) Q is a sister of R.
(3) P is a mother of two daughters.
(4) R is a grandfather of Q.