Directions for questions 1 to 4: Answer the questions on the basis of the information given below.

Eight sportspersons – A, B, C, D, E, F, G and H – are members at Commonwealth Sports Complex. Each one takes part in a different sport from among Badminton, Basketball, Cricket, Football, Gymnastics, Hockey, Swimming and Volleyball. The monthly coaching fees for each sport is different and it lies between Rs.5,600 and Rs.6,500 (both inclusive). Each of these sportspersons was born in a different year from 1999 to 2006. (Consider only whole number of years completed till 2022. For example if X is born in 1997, then his age = 2022 – 1997 = 25 years)

The following information about the 8 sportspersons is also known that:

(i) The Football player is younger than only B, the Basketball player. G, the Volleyball player, pays Rs.600 more than the Hockey player.

(ii) E pays Rs.6,000 for Badminton coaching. The fees paid by the 19 year old is Rs.6,200 which is Rs.200 less than the fees paid by the 21 year old.

(iii) The one born in 2000 pays Rs.100 more than G. A, who does not play Hockey, is 1 year older than F but pays Rs. 100 less than F.

(iv) H was born in 2006 and pays Rs.800 less than D, who was born in 2001 and likes Swimming. C and A were born in 2000 and 2004 respectively.

(v) The average fees paid by B, C and D is Rs.6,400 whereas the average fees paid by A, E and H is Rs.5,800. The fees for Cricket is lesser than that for Gymnastics.

Q 1. Which sportsperson plays Cricket?

1) C

2) F

3) A

4) H

Q 2. What is the difference in ages (in years) of the Basketball player and the Gymnast?

Q 3. The amount paid as fees by the Volleyball player is equal to the average fees paid by which pair of players among the given options?

1) C – F

2) A – B

3) E – D

4) D – H

Q 4. Which of the following order is correct for the ages as well as the fees paid by the sportspersons?

1) C > D > E > A > F

2) B > D > E > A > H

3) E > G > A > F > H

4) D > G > E > F > A

Directions for questions 5 to 8: Answer the questions on the basis of the information given below.

Nine cars are parked in three rows of parking spots as shown in the table.

Car 1	Car 4	Car 7
Car 2	Car 5	Car 8
Car 3	Car 6	Car 9

The cars are either Jeeps or Sedans. They are either green or red. Lastly, they have either four-wheel drive or two-wheel drive. Any two cars are adjacent to each other along the same row or column only. The cars' characteristics are governed by the following constraints:
(i) All cars with four-wheel drive are Jeeps.
(ii) All cars, except one car, adjacent to exactly three cars have four-wheel drive.
(iii) Car 6 is a Sedan and is green.
(iv) All Sedans are adjacent to at least two cars with four-wheel drive.
(v) No car is the same color as any car directly adjacent to it.

Q 5. If all Jeeps are adjacent to at least one Sedan, then which of the following cars can be Sedan?

1) 3, 5, 6 & 9

2) 1, 5, 6 & 7

3) 1, 3, 6 & 9

4) 3, 6, 9 & 7

Q 6. Which of the following cannot be true about car 5?

1) Sedan, two-wheel drive

2) Jeep, four-wheel drive

3) Sedan, Green

4) Jeep, two-wheel drive

Q 7. What is the maximum number of Jeeps that can be parked?

Q 8. If all two-wheeled cars are adjacent to either two or three Jeeps, then which of the following can be true about car 7?

1) Jeep, two-wheel drive

2) Jeep, four-wheel drive

3) Sedan, two-wheel drive

4) All (1), (2) and (3) can be true.

Directions for questions 9 to 12: Answer the questions on the basis of the information given below.

The Crime Branch, Crime Investigation Department (CB-CID) caught a gang of miscreants that was trying to spread rumors against the government by sending information through special apps that were encrypted end-to-end. However, one of the members of the gang was caught with some smartphones that contained sensitive information but are password protected. The CID team now has to find the passwords of the phones. After many rounds of interrogation, a gang member revealed that:
(i) Most smartphones are protected by a 5 digit password formed by using digits from 1 to 7 such that each digit is used exactly once.
(ii) The passwords of these phones were designed in such a way that the phone could be unlocked even by a password in which either some of the digits were not the same as the original or by a change in the order of the original digits.

Q 9. If the security password allows for exactly two digits (out of the five) to be out of place but all digits of the original password must be present, (For example, a password of 35762 can also be used instead of the actual password of 37562 to open a phone), then what is the maximum number of unsuccessful attempts in unlocking a particular phone?

Q 10. The security settings of a phone allows the input attempt of the five digits to vary from the original sequence by changing places of only two digits at consecutive places. Thus, for example, if 12345 is the original sequence, then 21345 is also allowed, but 52341 is not. How many different possible combinations can be used to unlock the phone, if the digits used in the password are known?

1) 13

2) 8

3) 7

4) 5

Q 11. One of the phones can be unlocked if 2 digits of the original password are replaced by 2 other digits (not present in the original) such that the other 3 digits are at their correct places (For example, an attempt of 15724 will unlock the phone whose actual password is 15623). If the investigator has information that the 3rd digit of the password of this phone is 6 while 2 is also used as one of the digits, then how many minimum total different attempts may be required by him to definitely unlock the phone?

1) 240

2) 20

3) 16

4) 24

Q 12. The password of a particular phone required six digits to unlock, where the digit one was used twice and the remaining digits from 1 to 5 were used exactly once. Digits 6 and 7 were not used. The security setting allows a variation of the original sequence (of six digits) where exactly 3 digits can be out of place. What is the minimum number of attempts needed definitely to crack the password?

1) 72

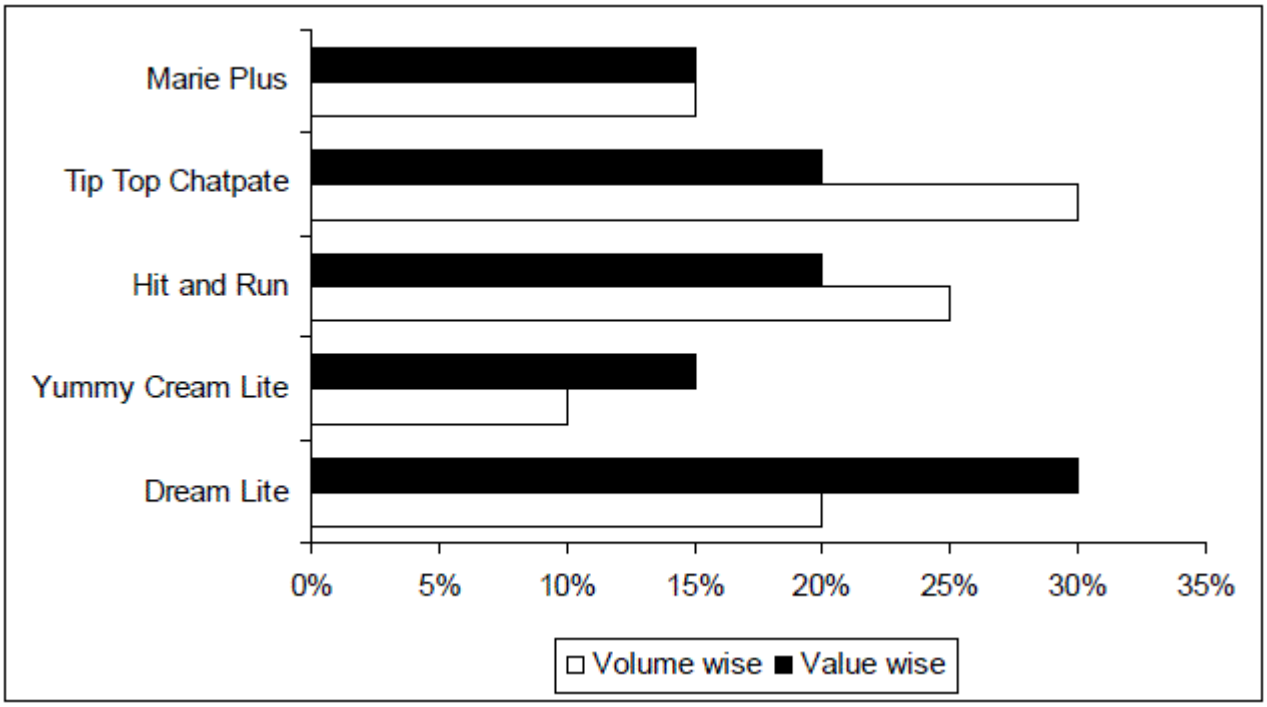
2) 132

3) 60

4) 144

Direction for questions 13 to 16: Answer the questions on the basis of the information given below.

The bar graph given below shows the sales break-up of five different categories of biscuits - Dream Lite, Yummy Cream Lite, Hit & Run, Tip Top Chat pate and Marie Plus - sold by ABC Industries Limited in the year 2021-22.



Q 13. The total sales of ABC Industries Limited for these five categories of biscuits in 2021-22 were 1,50,000 kg, valued at Rs. 90 lakhs. If its value wise market share in 2021-22 increased by 20% as compared to 2020-21, what was the sales volume (in thousand kg) of the company for the year 2020-21? (Assume that the average price of biscuits produced by ABC Industries Limited remains same for both the years.)

1) 115

2) 120

3) 125

4) 130

Q 14. For how many categories of biscuits of the company was the price per kg less than the average price per kg of all the categories of biscuits in 2021-22?

1) One

2) Two

3) Three

4) Four

Q 15. Volume wise ABC Industries Limited sold biscuits in the ratio 4 : 3 : 2 : 1 respectively in only 4 regions P, Q, R and S of the country in 2021-22. If the total sales of ABC Industries Limited for these five categories of biscuits in region P in 2021-22 was 6,400 kg, then the total sales of Tip Top Chatpate biscuits was how much (in kg) more than the total sales of Dream Light biscuits of the company in the same year?

Q 16. Value wise ABC Industries Limited sold biscuits in the ratio 4 : 3 : 2 : 1 respectively in only 4 regions P, Q, R and S of the country in 2021-22. If value wise sales of Marie Plus biscuits was 12% of the total value wise sales of region Q, then value wise sales of Marie Plus biscuits in region Q was what percent of the total value wise sales of Marie Plus biscuits of the company in 2021-22?

1) 18%

2) 20%

3) 36%

4) 24%

Directions for questions 17 to 20: Answer the questions on the basis of the information given below.

Bhavyesh, Debasish, Mrugank, Purnima, Ramana and Sriraj - are six stockbrokers each having some shares with him/her of a company ABC. The total number of shares with six of them taken together is 465. Further, it is also known that:
(i) Each of them has at least 25 shares.
(ii) The number of shares with Bhavyesh is the square of a natural number.
(iii) The ratio of the number of shares with Purnima and Ramana is 7 : 9 respectively.
(iv) The number of shares with Mrugank is the cube of a natural number.
(v) The number of shares with Sriraj is 50% more than the number of shares with Debasish.
(vi) The sum of the number of shares with Purnima and Ramana is equal to the number of shares with Bhavyesh.

Q 17. If the number of shares with Bhavyesh is the cube of a natural number, then who has the second highest number of shares?

1) Sriraj

2) Ramana

3) Devasish

4) Mrugank

Q 18. What is the maximum number of stockbrokers that can have an odd number of shares?

Q 19. Which of the following pairs can have the minimum sum of the number of shares?

1) Bhavyesh & Mrugank

2) Mrugank & Ramana

3) Devasish & Purnima

4) Devasish & Mrugank

Q 20. Which among the following can be the possible absolute difference between the number of shares with Purnima and Sriraj?

1) 158

2) 159

3) 27

4) Either (1) or (3)
