None of these

## Chapter No. 3

## **Problem on Average:**

Α

В

| 1.  | David obtained 76, 65, 82, 67, and 85 marks (out of 100) in English, Mathematics, Physics, Chemistry and Biology. What are his average marks?   |                            |           |                               |          |                        |        |                   |  |  |
|-----|---|----------------------------|-----------|-------------------------------|----------|------------------------|--------|-------------------|--|--|
|     | A   | 65                         | В         | 69                            | С        | 72                     | D      | <mark>75</mark>   |  |  |
| 2.  | In Arun's opinion, his weight is greater than 65 kg but less than 72 kg. His brother does not agree with Arun and he thinks that Arun's weight is greater than 60 kg but less than 70 kg. His mother's view is that his weight cannot be greater than 68 kg. If all of them are correct in their estimation, what is the average of different probable weights of Arun? |                            |           |                               |          |                        |        |                   |  |  |
|     | A   | <mark>67 kg</mark>         | В         | 68 kg                         | С        | 69 kg                  | D      | None of these     |  |  |
| 3.  | The aver  | rage of 20 numbers is z    | ero. Of t | hem, at the most, how ma      | any ma   | y be greater than zei  | o?     |                   |  |  |
|     | A   | 0                          | В         | 1                             | С        | 10                     | D      | <mark>19</mark>   |  |  |
| 4.  | Find the  | average of all the numl    | oers be   | tween 6 and 34 which ar       | e divisi | ble by 5.              |        |                   |  |  |
|     | A   | 18                         | B         | <mark>20</mark>               | С        | 24                     | D      | 30                |  |  |
| 5.  | The aver  | rage of the first nine pri | me nun    | nbers is:                     |          |                        |        |                   |  |  |
|     | A   | 9                          | В         | 11                            | C        | 11 1<br>9              | D      | $11\frac{2}{9}$   |  |  |
| 6.  | A student was asked to find the arithmetic mean of the numbers $3, 11, 7, 9, 15, 13, 8, 19, 17, 21, 14$ and $x$ . He found the mean to be $12$ . What should be the number in place of $x$ ?  |                            |           |                               |          |                        |        |                   |  |  |
|     | A   | 3                          | B         | <mark>7</mark>                | С        | 17                     | D      | 31                |  |  |
| 7.  | The average of 2, 7, 6 and x is 5 and the average of 18, 1, 6, x and y is 10. What is the value of y?   |                            |           |                               |          |                        |        |                   |  |  |
|     | A   | 5                          | В         | 10                            | C        | <mark>20</mark>        | D      | 30                |  |  |
| 8.  | If the me   | an of 5 observations x,    | x + 2, x  | + 4, $x + 6$ and $x + 8$ is 1 | 1, then  | the mean of the last   | three  | observations is   |  |  |
|     | A   | 11                         | B         | <b>13</b>                     | С        | 15                     | D      | 17                |  |  |
| 9.  | If the mean of a, b, c, is M and ab + bc + ca = 0, then the maen of $a^2$ , $b^2$ , $c^2$ is:   |                            |           |                               |          |                        |        |                   |  |  |
|     | Α   | $M^2$                      | B         | 3M <sup>2</sup>               | С        | 6M <sup>2</sup>        | D      | 9M <sup>2</sup>   |  |  |
| 10. | The aver  | age of the two digit nur   | nbers, v  | which remain the same w       | hen th   | e digits interchange t | heir p | oositions, is:    |  |  |
|     | A   | 33                         | В         | 44                            | C        | <mark>55</mark>        | D      | 66                |  |  |
| 11. | The aver  | age of a non – zero nur    | nber an   | nd its square is 5 times th   | e numl   | ber. The number is:    |        |                   |  |  |
|     | A   | 9                          | В         | 17                            | С        | 29                     | D      | 295               |  |  |
| 12. | The aver  | age of five consecutive    | odd nui   | mbers is 61. What is the c    | lifferen | nce between the high   | est an | ıd lowest number? |  |  |

- 13. The sum of three consecutive odd numbers is 38 more than the average of these numbers. What is the first of these numbers?
  - 13 Α

17

- C 19
- None of these
- 14. The average annual income (in Rs.) of certain agricultural workers is S and that of other workers is T. The number Of agricultural workers is 11 times that of other workers. Then the average monthly income of all the workers is :
- $C = \frac{1}{11S} + T$
- 15. A family consists of grandparents, parents and three grandchildren. The average age of the grandparents is 67 years, that of the parents is 35 years and that of the grandchildren is 6 years. What is the average of the family?
  - A  $28\frac{4}{7}$  years
- $\begin{array}{ccc} \mathbf{B} & \mathbf{31} & \mathbf{5} & \mathbf{years} \\ \mathbf{7} & \mathbf{7} & \mathbf{C} & \mathbf{32} & \mathbf{7} & \mathbf{7} \end{array}$
- D None of these
- 16. A library has an average of 510 visitors on Sundays and 240 on other days. The average number of visitors per day in a month of 30 days beginning with a Sunday is:
  - 250 Α

276

- 280
- 285 D
- 17. A car owner buys petrol at Rs. 7.50, 8 and 8.50 per litre for three successive years. What approximately is the average cost per litre of petrol if he spends Rs. 4000 each year?
  - Rs. 7.98
- Rs. 8

- C Rs. 8.50
- D Rs. 9
- 18. The average of six numbers is x and the average of three of these is y. If the average of the remaining three is z, then:
  - x = v + z
- 2x = v + z
- $C \quad x = 2v + 2z$
- None of these
- 19. The average of 50 numbers is 30. If two numbers, 35 and 40 are discarded, then the average of the remaining numbers is nearly:
  - Α 28.32
- В 28.78
- 29.27
- 29.68
- 20. The average age of five numbers is 27. If one number is excluded, the average becomes 25. The excluded number is
  - Α
- 25`
- 27

- C 30
- 21. The average age of 35 students in a class is 16 years. The average age of 21 students is 14. What is the average age of remaining 14 students?
  - 15 years
- B 17 years
- 18 years
- 19 vears
- 22. 16 children are to be divided into two groups A and B of 10 and 6 children. The average percent marks obtained by the children of group A is 75 and the average percent marks of all the 16 children is 76. What is the average percent marks of children of group B?

- $C = 78\frac{1}{3}$
- 23. The difference of two numbers is 1365. On dividing the larger number by the smaller, we get 6 as quotient and 15 as remainder. What is the smaller number?
  - Α 240

- 270

- C 295
- D 360

| ijap | au rasii  | г.  |            | 201021                 | 121023(DDF     | 1)                     |           | CH-3_A                   |  |
|------|---|---|------------|------------------------|----------------|------------------------|-----------|--------------------------|--|
| 24.  |   | age of six numbers is 3.9<br>age of the remaining tw            |            | _                      | hem is 3.4, w  | hile the average of    | the oth   | er two is 3.85. What is  |  |
|      | A   | 4.5   | B          | <b>4.6</b>             | С              | 4.7                    | D         | 4.8                      |  |
| 25.  | The average price of 10 books is Rs. 12 while the average price of 8 of these books is Rs. 11.75. Of the remaining two books, if the price of one book is 60% more than the price of the other, what is the price of each of these two books?   |   |            |                        |                |                        |           |                          |  |
|      | A   | Rs. 5, Rs. 7.50   | В          | Rs. 8, Rs. 12          | C              | Rs. 10, Rs. 16         | D         | Rs. 12, Rs. 14           |  |
| 26.  |   | age of runs of a cricket phis average of runs by                | -          | of 10 innings was 3    | 2. How many    | runs must he mak       | ce in his | next innings so as to    |  |
|      | A   | 2   | В          | 4                      | С              | 70                     | D         | <mark>76</mark>          |  |
| 27.  | _   | ny produces on an avera<br>per month over the next              | _          | =                      |                |                        |           | s it must produce on an  |  |
|      | A   | <mark>4500</mark>   | В          | 4600                   | С              | 4680                   | D         | 4710                     |  |
| 28.  |   | ree numbers, the first is s is $\frac{7}{72}$ . The numbers are |            | he second and the s    | second is twi  | ce the third. The av   | verage o  | of the reciprocal of the |  |
|      | A   | 16, 8, 4  | В          | 20, 10, 5              | C              | <mark>24, 12, 6</mark> | D         | 36, 18, 9                |  |
| 29.  | Of the fo   | ur numbers, whose aver  | age is 6   | 60, the first one – fo | ourth of the s | um of the last thre    | e. The f  | irst numbers is:         |  |
|      | A   | 15  | В          | 45                     | C              | <b>48</b>              | D         | 60.25                    |  |
| 30.  |   | ree numbers, the averag<br>15. What is the differen             |            |                        |                |                        | of the se | econd and the            |  |
|      | A   | 15  | В          | 45                     | С              | 60                     | D         | None of these            |  |
| 31.  | Average   | of ten positive numbers   | s is xIf e | ach numbers is inc     | reased by 10   | % , then x             |           |                          |  |
|      | Α   | remains unchanged   | В          | may decrease           | С              | may increase           | D         | is increased by 10 %     |  |
| 32.  | The mean  | n of 50 observations was  | s 36. It v | was found later tha    | at an observa  | tion 48 was wrong      | ly taker  | as 23. The corrected     |  |
|      | A   | 35.2  | 36.1       | 2                      | C              | <mark>36.5</mark>      | D         | 39.1                     |  |
| 33.  |   | marks were wrongly er<br>number of pupils in the                |            |                        | Due to that t  | he average marks       | for the ( | class got increased by   |  |
|      | A   | 10  | В          | 20                     | C              | <b>40</b>              | D         | 73                       |  |
| 34.  | The average temperature of the town in the first four days of a months was 58 degrees. The average for the second , third, fourth and fifth days was 60 degrees. If the temperatures of the first and fifth days were in the ratio 7: 8, then what is the temperature on the fifth day? |   |            |                        |                |                        |           |                          |  |
|      | A   | 64 degrees  | В          | 62 degrees             | С              | 56 degrees             | D         | none of these            |  |

| rajap | ati Yash  | P.   |        | 20162121023  | (BD    | A)                     |         | CH-3                       |  |  |
|-------|---|--|--------|--|--------|------------------------|---------|----------------------------|--|--|
| 35.   |   | age age of the mother a<br>l. How old is the mothe |        | six children is 12 years wh                                | ich is | s reduced by 5 years   | if the  | age the mother is          |  |  |
|       | A   | 40 years   | B      | 42 years   | С      | 48 years               | D       | 50 years                   |  |  |
| 36.   |   | age weight of 8 person<br>ght be the weight of th  |        | ses by 2.5 kg when a new person?                           | perso  | on comes in place of c | ne of   | them weighting 65 kg.      |  |  |
|       | A   | 76 kg  | В      | 76.5 kg  | C      | <mark>85 kg</mark>     | D       | None of these              |  |  |
| 37.   | The aver  | age of the consecutive                             | number | s is n. if the next two numb                               | ers a  | re also included, the  | avera   | ge will:                   |  |  |
|       | A   | remain the same                                    | B      | increase by 1  | С      | increase by 1.4        | D       | increase by 2              |  |  |
| 38.   | 3. The average age of a husband and his wife was 23 years at the time of their marriage. After five years they have a one year old child. The average age of the family now is: |  |        |  |        |                        |         |                            |  |  |
|       | A   | 19 years   | В      | 23 years   | С      | 28.5 years             | D       | 29.3 years                 |  |  |
| 39.   | 3 years ago, the age of a family of 5 members was 17 years. A baby having been born, the average age of the family is the same today. The present age of the baby is:           |  |        |  |        |                        |         |                            |  |  |
|       | A   | 1 year   | В      | $1\frac{1}{2}$ years                                       | C      | 2 years                | D       | 3 years                    |  |  |
| 40.   |   |  |        | d 400 women and the ave<br>en what are their daily wa      | _      | wage was Rs. 25.50 p   | er da   | y.                         |  |  |
|       | A   | M: Rs. 25, W: Rs. 20                               | B      | M: Rs. 27.50, W: Rs. 22.50                                 | С      | M: Rs. 30, W: Rs. 25   | D       | M: Rs. 32.50, W: Rs. 27.50 |  |  |
| 41.   |   |  | _      | group of students in a test<br>a score of 31. The mean sco |        | _                      | % of tl | hem secured a mean         |  |  |
|       | A   | 45   | В      | 50   | C      | 51.4 approx.           | D       | 54.6 Approx.               |  |  |
| 42.   |   |  |        | a workshop is Rs. 8000. Tl<br>0. The total number of wor   |        |                        | ınicia  | ns is Rs. 12000 and        |  |  |
|       | A   | 20   | B      | <mark>21</mark>  | С      | 22                     | D       | 23                         |  |  |
| 43.   | paper ar  |  | _      | rks were 63 per paper. If l<br>y paper, his average per pa |        |                        |         |                            |  |  |
|       | Α   | 8  | В      | 9  | C      | <mark>11</mark>        | D       | 12                         |  |  |
| 44.   |   |  |        | 15.8 years. The average a                                  | _      | •                      | 6.4 ye  | ears and that of the       |  |  |

<mark>2:3</mark>

C 3:4

D 3:5

В

A 1:2