

## Topics Covered

- Average and Alligation - 01

# QA

**CEX-Q-0209/25****Number of Questions : 20**

- Ramesh receives the following scores in his maths test: 78, 92, 83 and 99. What score does he need in the next test in order to have an average of 90 in the five tests?
- The average of 6 numbers is 30. If the average of first four is 25 and that of the last three is 35, the fourth number is:  
(1) 35                      (2) 30  
(3) 25                      (4) 40
- The average weight of 20 students in a class is 50 kg. Find the new average in each of these cases.  
(1) A student whose weight was actually 40 kg, was earlier mistaken to be 50 kg.  
(2) A student whose weight was 40.5 kg left the group.  
(3) Two students whose average weights were 45.5 kg left the group.  
(4) A student whose weight was 71 kg joined the group.  
(5) Two students whose average weight was 39 kg joined this group.
- The average age of 7 consecutive natural numbers is K, then what will be the average of next 7 consecutive natural numbers?  
(1) K                      (2) K + 7  
(3) K + 1                (4) K + 49
- A is the average of a series of n consecutive odd numbers starting with x and B is the average of n consecutive odd numbers starting with x + 4. The value of (B – A)  
(1) is always 4.  
(2) depends on x.  
(3) depends on n  
(4) is always a multiple of 4.
- Consider the set  $S = \{2, 3, 4, \dots, 2n + 1\}$ , where 'n' is a positive integer larger than 2007. Define X as the average of the odd integers in S and Y as the average of the even integers in S. What is the value of (X – Y)?  
(1) 0                      (2) 1  
(3)  $\frac{1}{2}n$                       (4) 2008
- The average of a non-decreasing sequence of N numbers  $a_1, a_2, \dots, a_N$  is 300. If  $a_1$  is replaced by  $6a_1$ , the new average becomes 400. Then the number of possible values of  $a_1$  is
- The average age of 5 members of a committee is the same as it was 3 years ago, because an old member has been replaced by a new member. The difference between the ages of old and new member is:

9. Ten years ago, the ages of the members of a joint family of eight people added up to 231 years. Three years later, one member died at the age of 60 years and a child was born during the same year. After another three years, one more member died, again at 60, and a child was born during the same year. The current average age of this eight-member joint family is nearest to
10. The average age of a group of 23 persons increases by 4 months, when a person of 20 years is replaced by a new person. The age of the new person is  
 (1) 28 years (2) 27 years 8 months  
 (3) 27 years (4) 26 years 6 months
11. The average age of a group of officers goes down to 56 years from 58 years, when an old member is replaced by a young member. What is the total number of members in that team if the age difference between those two members is 30 years?
12. The average height of 13 people reduces by 2 cm if a person of height 184 cm is replaced by a new person. Find the height of the new person?  
 (1) 154 cm (2) 159 cm  
 (3) 197 cm (4) 158 cm
13. The average height of 22 toddlers increases by 2 inches when two of them leave this group. If the average height of these two toddlers is one-third the average height of the original 22, then the average height, in inches, of the remaining 20 toddlers is  
 (1) 30 (2) 28  
 (3) 32 (4) 26
14. The bowling average of a cricketer was 12.4. He improves his bowling average by 0.2 points when he takes 5 wickets for 26 runs in his last match. The number of wickets taken by him before the last match was  
 (1) 125 (2) 150  
 (3) 175 (4) Data insufficient
15. CAT aspirant appears for a certain number of tests. His average score increases by 1 if the first 10 tests are not considered, and decreases by 1 if the last 10 tests are not considered. If his average scores for the first 10 and the last 10 tests are 20 and 30, respectively, then the total number of tests taken by him is
16. A school has two sections of 20 students each. The difference in the average weights of the students in the two sections is 1 kg. The average weight of both the sections together is 64 kg. Ramu shifts from section A to section B, and Pooja shifts from section B to section A. The average weights of the two sections has now been interchanged. If Ramu alone shifts, the average weight of both the new sections is equal. What is Ramu's weight?  
 (1) 53 kg (2) 74 kg  
 (3) 54 kg (4) 73.5 kg
17. Three sections, A, B, and C, of class 12th take a mathematics test. The average score of students in section A is 83. The average score of students in section B is 76. The average score of students in section C is 85. The average score of sections A and B combined is 79, and the average score of sections B and C combined is 81. The average score of sections A, B, and C combined is:  
 (1) 80 (2) 80.5  
 (3) 81 (4) 81.5
18. In a class of N students, if a new student whose weight is 30 kg joins the class, the average weight of the class increases by 1 kg. If the new student's weight is 18 kg, the average weight of the class decreases by 1 kg. The value of N is:  
 (1) 7 (2) 6  
 (3) 5 (4) 4

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| <p>19. Five students, including Amit, appear for an examination in which possible marks are integers between 0 and 50, both inclusive. The average marks for all the students is 38 and exactly three students got more than 32. If no two students got the same marks and Amit got the least marks among the five students, then the difference between the highest and lowest possible marks of Amit is</p> <p>(1) 20                      (2) 21<br/>(3) 22                      (4) 24</p> | <p>20. Manu earns Rs. 4000 per month and wants to save an average of Rs. 550 per month in a year. In the first nine months, his monthly expense was Rs. 3500, and he foresees that, tenth month onward, his monthly expense will increase to Rs. 3700. In order to meet his yearly savings target, his monthly earnings, in rupees, from the tenth month onward should be</p> <p>(1) 4300                      (2) 4200<br/>(3) 4350                      (4) 4400</p> |
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