

MULTIPLE CHOICE QUESTIONS

Choose the correct answer from the given four options in questions (1 to 30):

1. The average of $x - 1$, $x + 1$, $x + 3$ and $x + 5$ is
(a) $x + 1$ (b) $x + 2$ (c) $x + 3$ (d) $x + 4$
2. The average of five numbers is 30. If one number is excluded, their average becomes 28. The excluded number is
(a) 28 (b) 30 (c) 35 (d) 38
3. If the mean of x_1, x_2 is 7.5 and the mean of x_1, x_2, x_3 is 8, then the value of x_3 is
(a) 9 (b) 8 (c) 7.5 (d) 6
4. If each observation of the data is increased by 5, then their mean
(a) remains the same (b) becomes 5 times the original mean
(c) is decreased by 5 (d) is increased by 5
5. The average of 100 numbers is 50. If one of the number which was 50 is replaced by 150, the new average will be
(a) 50.5 (b) 51 (c) 51.5 (d) 52
6. Aditya scored the runs at an average of 64. He wanted it to be 66. This could have been achieved if he had scored 22 more runs in all his innings put together. How many innings has he played till now?
(a) 10 (b) 11 (c) 12 (d) 15

7. The average runs scored by a batsman in 10 innings are X . He plays his next innings and scored 108 runs. This increases the average by 6 runs. What is the new average?
- (a) 48 runs (b) 52 runs (c) 55 runs (d) 60 runs
8. It was Thursday on Feb 12, 2004. What was the day of the week on Feb 12, 2003?
- (a) Friday (b) Wednesday (c) Saturday (d) Tuesday
9. What was day on 15th August 1947?
- (a) Friday (b) Saturday (c) Sunday (d) Monday
10. Tuesday fell on which of the following dates of June 2002?
- (a) 3, 10, 17, 24 (b) 2, 9, 16, 23, 30
(c) 4, 11, 18, 25 (d) 1, 8, 15, 22, 29
11. If it was Friday on 4th May 1956, then what was the day on 6 July 1957?
- (a) Wednesday (b) Monday (c) Saturday (d) Tuesday

CASE-STUDY BASED QUESTIONS

1. Matching years

Can a calendar for one year be served as the calendar for some other year?
The answer of the above question is 'Yes'.

A calendar for leap year can be used for some other leap year in future and calendar for non-leap year can be used for some other non-leap year. The condition is that there must be 0 number of odd days between two years.

The rule of finding the matching year (*i.e.* year having the same calendar) is given below:

For leap-year

General rule: Add 28 to the year.

If on adding 28 to the year, we cross a century year, then check whether century year is a leap year or not.

Case 1. If century year is a leap year, then adding 28 is correct.

Case 2. If century year is a non-leap year, then add 40 instead of 28 to the year.

For non-leap year

General rule: Add 11 to the year.

Case 1. If on adding 11, we are getting a non-leap year, then adding 11 is correct.

Case 2. If on adding 11, we are getting a leap year, then add 6 instead of 11 to the year.

Based on the above information, answer the following questions:

(i) Which year will have the same calendar as that of year 2018?

(a) 2029

(b) 2024

(c) 2046

(d) 2058

- (ii) Which year will have the same calendar as that of year 2020?
(a) 2026 (b) 2031 (c) 2048 (d) 2060
- (iii) Which year will have the same calendar as that of year 2013?
(a) 2024 (b) 2019 (c) 2041 (d) 2053
- (iv) Which year will have the same calendar as that of year 2076?
(a) 2082 (b) 2087 (c) 2104 (d) 2116
- (v) Rahul celebrated his 10th birthday on Friday, 26 February 2021. Which birthday, he will celebrate on the same day?
(a) 21st (b) 16th (c) 38th (d) 50th