Set Theory

Model 1: Two Sets

1. In a class of 120 students, 70 students passed in English, 80 students passed in Hindi and 40 students passed in both English and Hindi. How many students failed in both the subjects?

   1) 20   2) 30   3) 10   4) 15   5) None of these

2. In a school of 1000 students, 700 students play Cricket, 550 students play football and 180 students play neither cricket nor football. How many students play both cricket and football?

   1) 230   2) 360   3) 430   4) 70   5) None of these

Model 2: Three Sets

Directions (3-7): Read the following data to answer the questions that follow

In a class of 106 students, each student studies at least one of the three subjects Maths, Physics and Chemistry. 48 of them study Maths, 51 Physics and 53 Chemistry. 16 study Maths and Physics,17 study Maths and Chemistry and 18 study Physics and Chemistry.

3. The number of students who study exactly two subjects is

   1) 31   2) 32   3) 33   4) 36   5) None of these

4. The number of students who study more than one subject is

   1) 39   2) 41   3) 40   4) 42   5) None of these

5. The number of students who study all the three subjects is

   1) 5   2) 6   3) 7   4) 4   5) None of these

6. The number of students who study, exactly one subject is

   1) 45   2) 55   3) 65   4) 70   5) None of these

7. The number of students who study physics and Maths but not Chemistry is

    1) 9   2) 11   3) 10   4) 12   5) None of these

Directions (8-12): Read the following data to answer the questions that follow.

In a pollution study of 1500 Indian rivers, the following data was reported. 520 were polluted by sulphur compounds, 335 were poliuted by phosphates, 425 were polluted by crude oil, 100 were polluted by both crude oil and sulphur compounds, 180 were polluted by both sulphur compounds and phosphates, 150 were polluted by both phosphates and crude oil and 28 were polluted by sulphur compounds, phosphates and crude oil.

8. How many of the rivers were polluted by at least one of the three impurities?

    1) 878   2) 374   3) 346   4) 890   5) None of these

9. How many of the rivers were polluted by exactly two impurities?

    1) 878   2) 374   3) 346   4) 280   5) None of these

10. How many of the rivers were polluted by all the three impurities?

    1) 78   2) 55   3) 65   4) 28   5) None of these

11. How many rivers were polluted by Sulphur and Phosphate compounds only?

    1) 180   2) 152   3) 72   4) 122   5) None of these

12. How many of the rivers were not polluted by any of the impurities?

    1) 378   2) 622   3) 456   4) 298   5) None of these

Answers

1 - 3	2 - 3	3 - 4	4 - 2	5 - 1	6 - 3	7 - 2	8 - 1	9 - 3	10 - 4
11 - 2	12 - 2								