A question paper consists of two sections having respectively 3 and 5 questions. The following note is given on the paper "It is not compulsory to solve all questions". One question from each section is compulsory. In how many ways candidate can select a question

Solution

At least 1 question from each section is compulsory, so from the 1st section the candidate can attempt 1 or 2 or 3 questions.

In each section each question can be dealt with in 2 ways, i.e. either he attempts it or leaves it.

So far 3 question there are 2(2)(2) ways to attempt.

As he has to attempt at least 1 question, the total number of ways in which he can attempt questions from 1st section is $2^3 - 1$.

Similarly for the 2nd section there are $2^5 - 1$ ways in which he can attempt.

The ways in which the attempts one or more questions in any section is independent of the number of ways in which he attempts one or more questions from the other sections.

Thus, total number of ways in which he can attempt questions in that paper:

$$n = (2^3 - 1)(2^5 - 1) = 7 * 31 = 217.$$

Answer: 217.