

**UGC NET 2018 :**

Consider a vocabulary with only four propositions A, B, C and D. How many models are there for the following sentence ?

$B \vee C$

- A) 10
- B) 12
- C) 15
- D) 16

**Solution:**

We know there are total  $2^4 = 16$  cases.

S.No	A	B	C	D	$B \vee C$
1	0	0	0	0	0
2	0	0	0	1	0
3	0	0	1	0	1
4	0	0	1	1	1
5	0	1	0	0	1
6	0	1	0	1	1
7	0	1	1	0	1
8	0	1	1	1	1
9	1	0	0	0	0
10	1	0	0	1	0
11	1	0	1	0	1
12	1	0	1	1	1
13	1	1	0	0	1

14	1	1	0	1	1
15	1	1	1	0	1
16	1	1	1	1	1

From the table above,  $B \vee C$  is false. If  $B = C = 0$ .

There is 4 time  $B \vee C = 0$ .

So,  $16 - 4 = 12$  Ans.

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