

PHARMACEUTICS-I (BP103T)

UNIT: 2

CLASS: 3

TOPIC: PROOF SPIRIT

The strength of alcohol is calculated in proof degrees. The Indian standards of 100% proof spirit is equal to 57%v/v of ethyl alcohol. i.e., 100% p.s = 57%v/v ethyl alcohol

- If the value is more than 57% then it is said to be as over proof spirit.
- If the value is less than 57% then it is said to be as under proof spirit. 28

In India, the exercise duty is calculated in terms of rupees per litre of proof alcohol. So, any percentage volume in volume of alcohol can be converted into proof strength and vice versa by using the following method.

- Multiply the percentage strength of alcohol by 1.753 and deduct 100 from the product.
- If the result is positive, it is known as over proof.
- If the result is negative, it is known as under proof.

1.753 is obtained as follows:

57.1 volume of ethyl alcohol = 100 ml of proof spirit.

volume of ethyl alcohol = $100 / 57.1 = 1.753$ volume of proof spirit

Example problems for Proof Spirit calculations

Calculate the strength of 30° O.P and 40° U.P

OVER PROOF = $100 + 30 = 130$

Under proof = $100 - 40 = 60$

Alcohol strength = 74.15%v/v

Alcohol strength = 34.23%v/v

Check:

If strength is 74.15%v/v $74.15 \times 1.753 - 100 = 129.9 - 100 = +29.9^\circ$ or 30° O.P

If strength is 34.23 %v/v $34.23 \times 1.753 - 100 = 60.00 - 100 = - 40^\circ$ U.P

2 MARKS QUESTIONS

- Define proof spirit.

5 MARKS QUESTIONS

- What is over proof & under proof. Calculate the strength of 30° O.P & 40° U.P.