SIGNATOR

Theoretically, we have dealt with sines and cosines and other fancy functions. It’s now time to generate these signals and appreciate the most commonly found instrument in our labs: THE FUNCTION GENERATOR.

## ****PROBLEM STATEMENT****

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Mix various signals in the specified proportion and design filters to get the desired output.

## ****SPECIFICATIONS****

1.A set of function generators would be provided to each team.

2.A certain proportion of different signals will be set and each team will be required to implement the mixing(summing) circuit.

[For example: 1\*sin(x) + 1\*rect (3x)]

The component of the signals (i/p1 & i/p2) in the output should be variable and can be controlled by the knobs at O1 &O2 respectively.

The amplitude at o/p should vary from 1-5 times of the respective i/p signal provided.

Each team must also bring their own frequency filters to get the filtered outputs, the band limit of the filters should be 90kHz(10kHz-100kHz) before the mixing stage.

4.The component of the respective signal should also depend on the frequency of i/p1 and i/ p2 respectively such that O1 & O2 are maximum if frequency lies in the given bandwidth.

5.The filters MUST NOT be ready made (commercial filters available in the market). Each team should design their filters on their own. Readily available IC’s can be used in filter design but NOT ready-made filters.

## ****RULES****

1. Teams of 3.

2.Scoring:

•Proper filtering 50%.

Summing 30%.

Creativity and efficient design 20%.