Bangladesh University of Engineering and Technology (BUET)
Department of Computer Science and Engineering (CSE)

CSE 210 Digital Electronics and Pulse Techniques Sessional

Experiment# 4: Study of High-Pass and Low-Pass RC circuits

CKT diagram

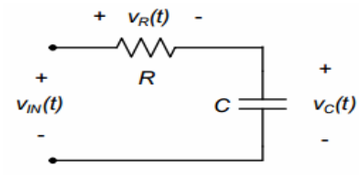

Figure 1 : RC circuit

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Procedure:

1. Set up the above circuit and capture the output wave shapes $V_R(t)$ and $V_c(t)$ for each of the combinations of two different frequencies, two different resistor values and two different capacitor values using (i) Square wave spanning [-5V, +5V], and (ii) Triangular wave spanning [-5V, +5V]. Exact values of the frequencies, resistors R and capacitors C to be used will be made known during lab class.
2. Describe and explain each output wave shape in the light of High-pass and Low-pass filter.

Question:

Consider the following circuit with corresponding input-output pattern –

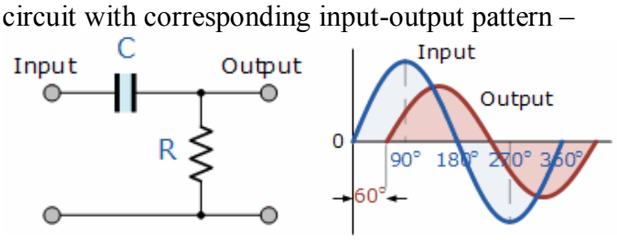

Figure 2: RC circuit and corresponding input-output pattern

Now, we need to get the following output –

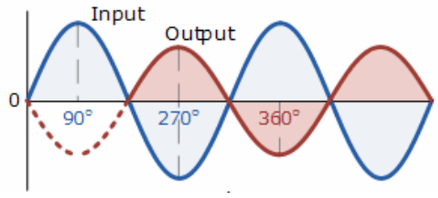

Figure 3: Intended input-output pattern

Now, considering the circuit and input-output pattern in Figure 2, draw a circuit that will produce the input-output pattern shown in Figure 3.

Report:

Report should cover the following points:

1. Objective.
2. Circuit diagram and input-output wave shapes.
3. Answer to the question
4. Discussion of the findings
5. Applications of your study