Date: 14:06:22

Roll No: 20951A0494 Name: mohammed Sohail

Exp No: 12 Experiment Name: Transistor as switch

DAY TO DAY EVALUATION:

	Preparation	Algorithm	Source Code	Program Execution	Viva	Total
		Performance in the Lab	Calculations and Graphs	Results and Error Analysis		
Max. Marks	4	4	4	4	4	20
Obtained	4	4	4	3	4	19

Signature of Lab I/C

START WRITING FROM HERE:

Aim:- To study & observe switching characteristics of a transistor.

Apparatus :-

Resistor ---> 2·2kΩ , 68kΩ -(1)
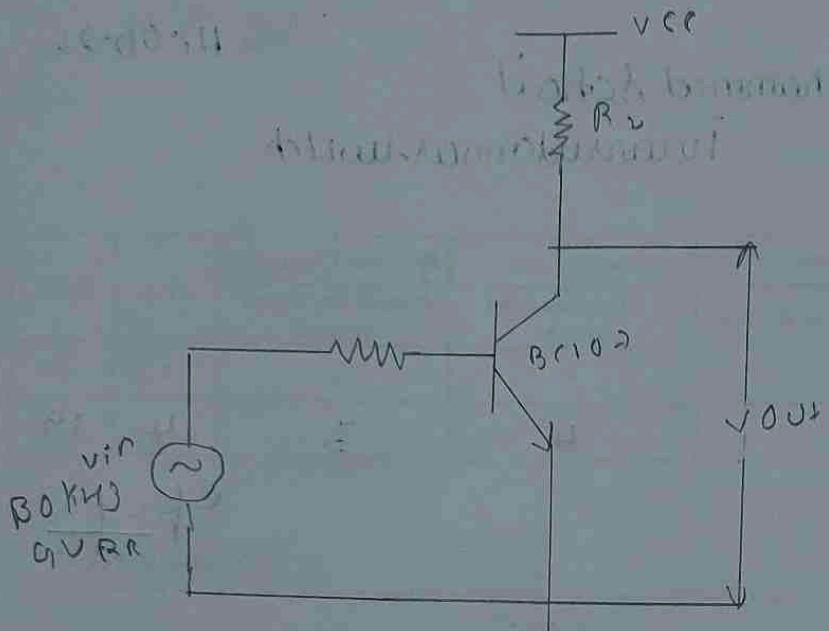
Transistor,-> BC107 -(1)

Bread board ->(1)
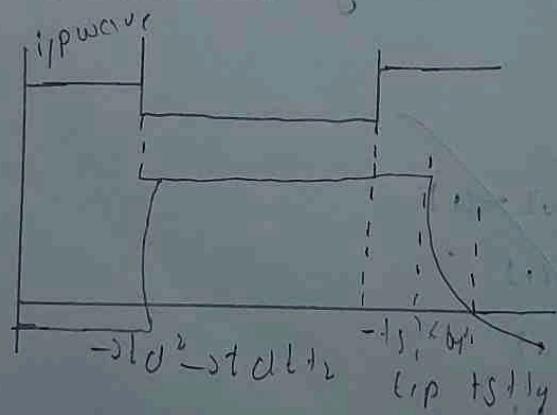
Analog discovery kit -)(1)

connecting wires

* circuit Diagram *

Vcc

R_2

BC10?

Vout

Vin
80KHJ
9VRR

* Expected waveform *

i/pwave

$t_1 dt_2 - t_0^2$ oc
$t_1 t_2 \, ds/ly$

Procedure:-

• connect circuit switch on power supply & observe O/P
  of function generation on CRO.
• Adjust i/P signal amplitude such that O/P signal peak to
  peak value is less than saturation level.
• Observe o/P waveform on CRO & note down the readings.
• Plot graph b/w i/p & o/p waveform at given i/put frequency

calculation :*

① td = 0.24s (delay time) ②. tr = 1.50ns (rise time)
③ ts = 400ns (setting time) ④ tf = 400ns (failling time)
  Vp-p = 12.7v

Result :- calculated td, tr, tf ts values & observed wave
         o/p and practical graph.

Voltage (V)

i/p wave

5v

0

0.5   1   1.5   2   2.5   3   3.5   4   4.5   5   5.5   6   6.5   (us)

→ tdk←   →tds tov   ←ts t   tcp = ts+tov