

Branch: (SY)B.Tech (ECT-Analog Circuit)

Sem.:- III

Subject with Subject Code:- BTEXC302

Marks: 20

Date:- 09/10/2018

Time:- 1 Hr.

Instructions:-

(Marks)

1. Check whether you have got correct question paper.
2. Assume suitable data if necessary.
3. Figure to right indicates full marks.

Q.No.1 Attempt Following questions (06)

- 1) Higher the value of R_e -----is -Ve feedback -----is common mode gain ?
a.) More,Less b.) Less,Less c.) More More.
- 2) Op-Amp 741 IC uses a -----polarity supply?
a.) Dual b.) Single c.) Negative.
- 3) Input resistance of inverting amplifier is -----?
a.) Zero b.) One c.) ∞ .
- 4) Inverting amplifier introduces -----feedback?
a.) Positive b.) Negative C.) Non of these
- 5) -----is also known as regenerative comparator.
a.) Schmitt trigger b.) Inverting c.) non inverting comparator.
- 6) The Schmitt trigger used ----- feedback.
a.) Positive b.) Negative c.) No feedback.

Q.No. 2 Attempt any Two of the following: (06)

- a.) Discuss following parameters of an Op-Amp:
1.) Slew rate 2.) Input Offset voltage 3.) SVRR.
- b.) Define Integrator? And prove the expression for output voltage ?
- c.) Design a Schmitt trigger whose VLT and VUT are $\pm 5V$, Draw it's wave form.
Note:- $V_{sat} = \pm 12V$, Supply voltage = $\pm 15V$.

Q.No.3 Solve any one (08)

- a.) What is need of level shifter in op-amp? Draw the block diagram of op-amp and explain each block in detail?
- b.) What is need of instrumentation amplifier? sketch instrumentation amplifier using three op-amp' and derive it's output expression?