

Roll No.

Total No. of Pages : 02

Total No. of Questions : 09

B.Tech.(EE) PT (Sem.-2)
ELECTRONICS DEVICES AND CIRCUITS
Subject Code : BTEE-304
M.Code : 71537

Time : 3 Hrs.

Max. Marks : 60

INSTRUCTION TO CANDIDATES :

1. SECTION-A is COMPULSORY consisting of TEN questions carrying TWO marks each.
2. SECTION - B & C have FOUR questions each.
3. Attempt any FIVE questions from SECTION B & C carrying EIGHT marks each.
4. Select atleast TWO questions from SECTION - B & C.

SECTION-A**1. Answer briefly :**

- a. What is the clipper circuit?
- b. What is the use of load line?
- c. Draw the VI characteristics of the JFET.
- d. Draw the circuit diagram of class B amplifier.
- e. Calculate closed loop gain of an inverting mode OPAMP.
- f. List ideal and practical characteristics of OPAMP.
- g. Draw the circuit diagram of Wein bridge oscillator.
- h. What do you understand by negative resistance in oscillators?
- i. Distinguish the transistor series and shunt regulators.
- j. What is the benefit of using voltage regulator circuit?

SECTION-B

- Determine the minimum value of current gain β required to put the transistor in saturation when $V_{in} = +5V$. Assume, $V_{BE}(sat) = 0.8 V$, $V_{CE}(sat) = 0.12 V$.

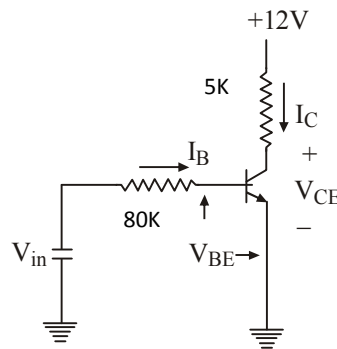


Fig.

- Draw the pin diagram of 555 timer. Explain its working as a bistable multi vibrator.
- Derive the expression of PIV for full wave rectifier circuit.
- Explain the principle and working of 1st order active low pass filter.

SECTION-C

- Discuss classes of amplifiers. Also in brief explain class AB amplifier.
- Draw the hybrid equivalent circuit for common emitter configuration of transistor. Also derive its relevant parameters.
- Explain the working of Schmitt trigger using suitable diagram and waveforms.
- Write short notes on :
 - Schottky Diode
 - MOSFET

NOTE : Disclosure of Identity by writing Mobile No. or Marking of passing request on any paper of Answer Sheet will lead to UMC against the Student.