## JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY, WAKNAGHAT

## TEST -1 EXAMINATION- September 2016

## B. Tech 3<sup>rd</sup> Semester

COURSE CODE: 10B11EC312

MAX. MARKS: 15

COURSE NAME: ANALOG ELECTRONICS

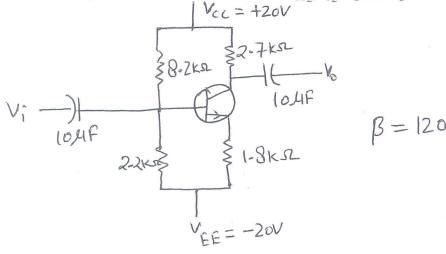
MAX. TIME: 1Hr.

**COURSE CREDITS: 04** 

Note: All questions are compulsory. Carrying of mobile phone during examination will be treated as case of unfair means.

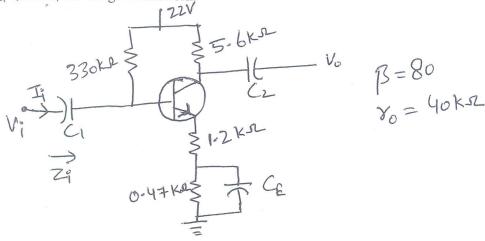
1. For the given voltage divider bias circuit, determine  $V_{CEQ}$ ,  $I_{CQ}$ ,  $V_B$  and  $V_C$ .

[5]



2. Determine  $r_e$ ,  $Z_i$  and  $A_V$  for the given network

[5]



- 3. (a). What is the expected amplification of a BJT amplifier if the dc supply is set to zero volts.

  Give reason to support your answer.

  [1.5]
  - (b). Derive the expression of  $S(I_{CO})$  for voltage divider bias circuit.

[1.5]

(c). Show that for emitter follower circuit  $A_V = 1$ .

[2]