NATIONAL INSTITUTE OF TECHNOLOGY KURUKSHETRA
ELECTRONIC DEVICES AND CIRCUITS (ECPC 201)
Class Test- 2nd (2024-2025)

Time: 50 min. **MM. 15**

NOTE: Attempt any three questions. Question 1 and Question 4 are compulsory. Assume suitable data, if required.

Q. 1 Draw the schematic diagram and explain the working of Common Base *n-p-n* transistor also draw its Input and output characteristics. [5]

Q. 2 For the emitter-bias network of Fig. 1, determine: [5]
(a.) I_B, (b.) I_C, (c.) V_{CE}, (d.) V_C, (e.) V_E, (f.) V_B.

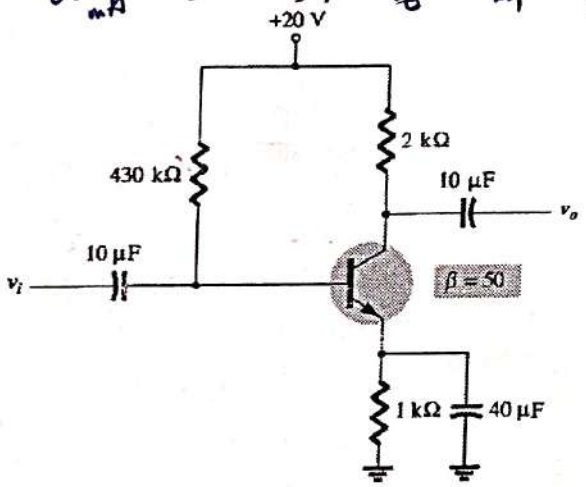

Fig. 1

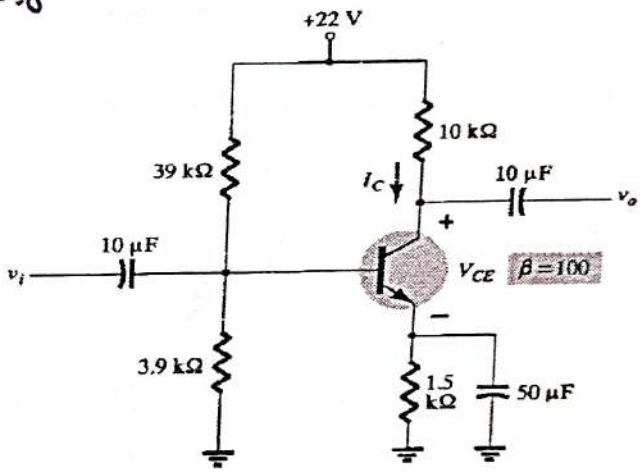

Fig. 2

OR

Q.3 Determine the dc bias voltage V_{CE} and the current I_C for the voltage divider configuration of **Fig.2**

Q.4 For the network of **Fig. 3**: [5]
(a.) Determine r_e, (b.) Find Z_i (with $r_o = \infty\Omega$), (c.) Calculate Z_o (with $r_o = \infty\Omega$),
(d.) Determine A_v (with $r_o = \infty\Omega$), (e.) Repeat parts (c) and (d) including $r_o = 50\ k\Omega$ in all calculations and compare results.

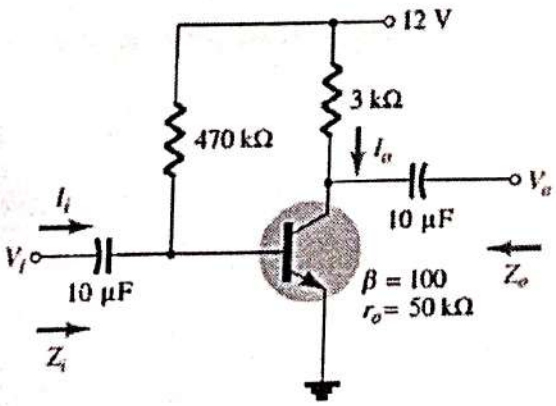

Fig. 3

**********ALL THE BEST**********