...goes in a negative direction and V_{CC} is ...oltage for positive half cycle at the input.

In the negative half cycle of input, in which terminal A becomes negative w.r.t. terminal B, the ac and dc voltages will oppose each other, reducing forward bias on base-emitter p-n junction. This reduces base current. Accordingly collector current and drop across R_C both reduce, increasing the output voltage. Thus, we get positive half cycle at the output for negative half cycle at the input. Therefore, we can say that there is a phase shift of 180° between input and output voltages for a common emitter amplifier.

7.2.2 Common Collector Amplifier Circuit

The Fig. 7.6 shows common collector circuit. The dc biasing is provided by R_1, R_2 and R_E. The load resistance is capacitor coupled to the emitter terminal of the transistor.

When a signal is applied via to the base of the transistor, V_B is increased and decreased as the signal goes positive and negative, respectively. Looking at Fig. 7.6 we can write that $V_E = V_B - V_{BE}$. Considering V_{BE} fairly constant, we say that variation in the V_B appears at emitter and emitter voltage V_E will vary same as base voltage V_B. Since the emitter is

output terminal, it can be noted that the output voltage from a common collector circuit is the same as its input voltage. In other words, we can say that in common collector circuit emitter terminal follows the signal voltage applied to the base. Hence the common collector circuit is also known as an **emitter follower**.

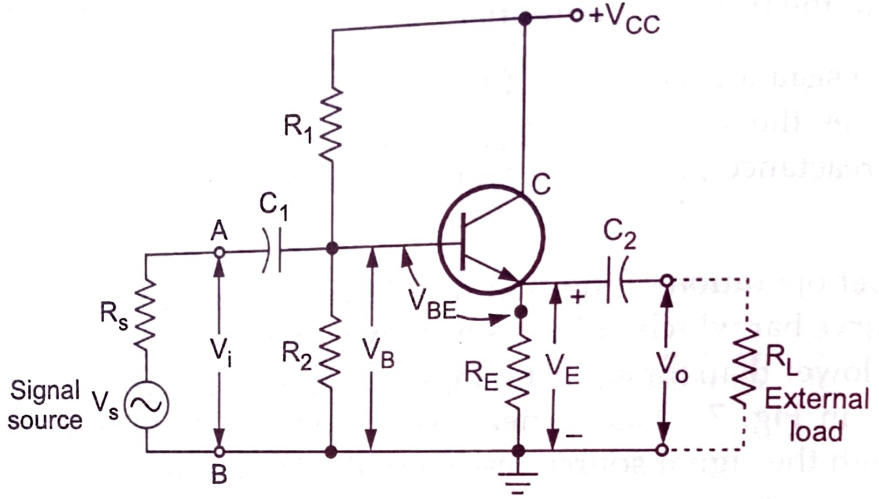

Fig. 7.6 Common collector circuit