

明新科技大學九十二學年度電子工程研究所招生

在職生應用電子學試題

1. Describe the characteristics of the three basic transistor amplifiers (common emitter, CE; common base, CB; and common collector, CC). (20%)
2. Describe the characteristics of the ideal operation amplifier (OP amplifier). (20%)
3. Define the  $\alpha$  and  $\beta$  parameters of transistor, then derive their relationship. (20%)
4. Using CMOS, figure out the logic circuit of the equation  $Y = A+B$  and  $Y = AB$ . (20%)
5. Design an amplifier with  $A_v=100$  by using an operational amplifier (OP) and two resistor. (20%)