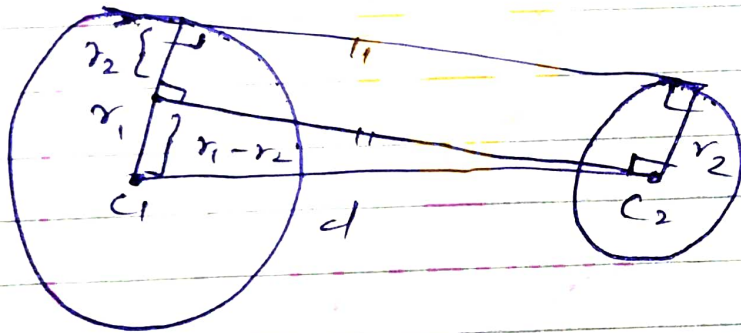
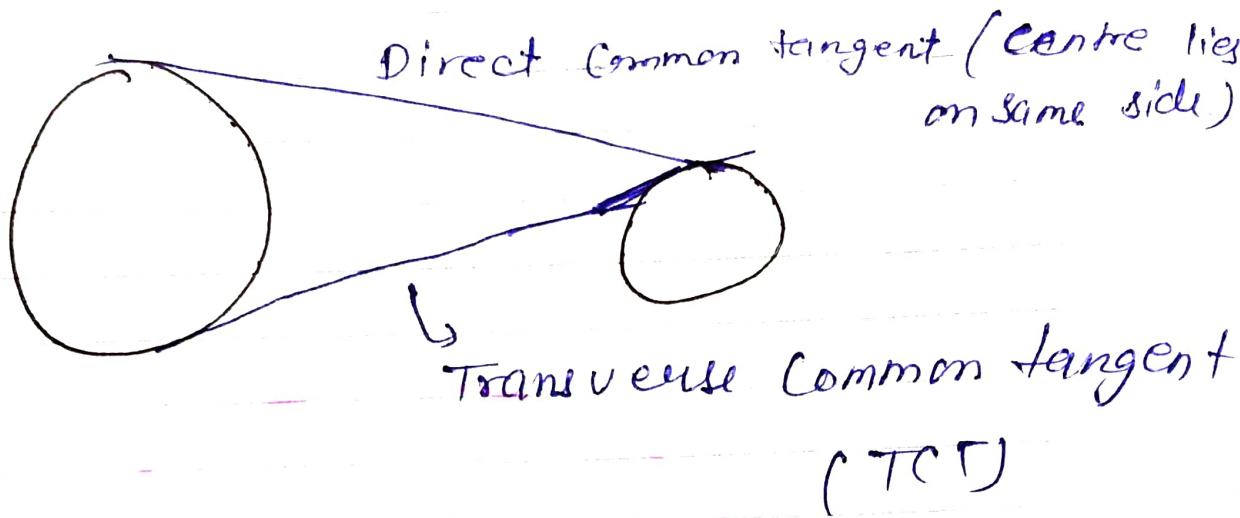
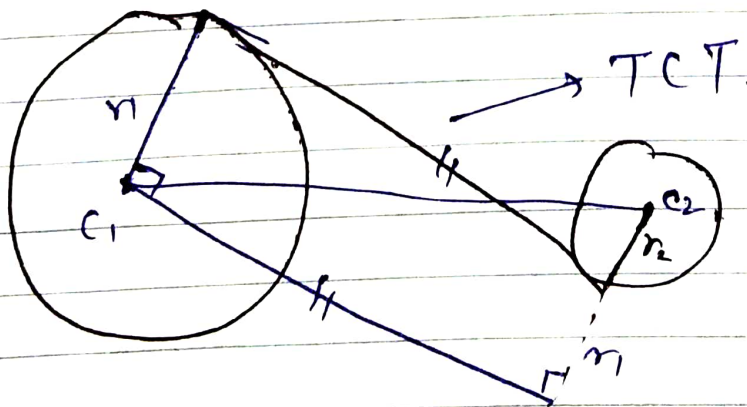


* Common tangent of two given circles:



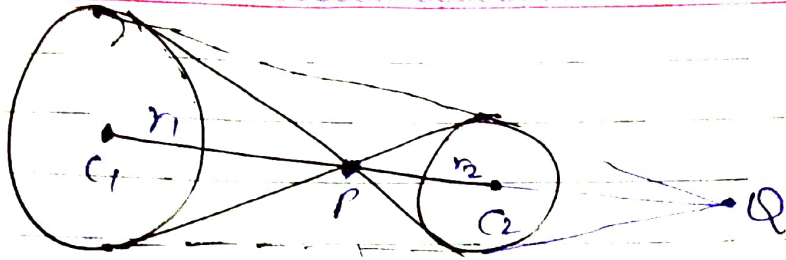
$$DCT = \sqrt{d^2 - (r_1 - r_2)^2}$$



$$DCT > TCT$$

$$TCT = \sqrt{d^2 - (r_1 + r_2)^2}$$

8

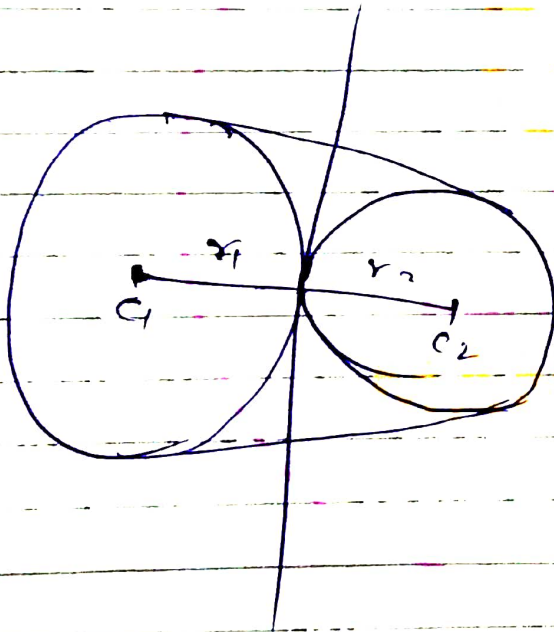


$$C_1 C_2 > r_1 + r_2$$

2 TCT, 2 DCT

$$\frac{C_1 P}{C_2 P} = \frac{C_1 Q}{C_2 Q} = \frac{r_1}{r_2}$$

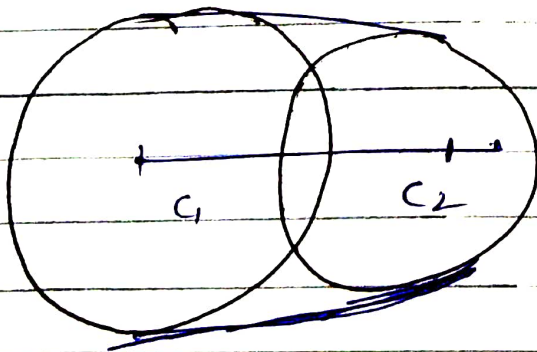
9



2 DCT
1 TCT

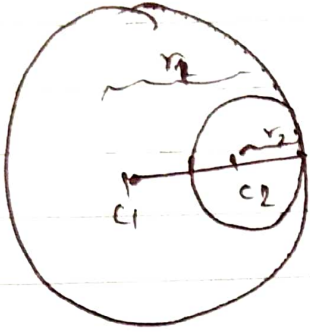
$$C_1 C_2 = r_1 + r_2$$

10



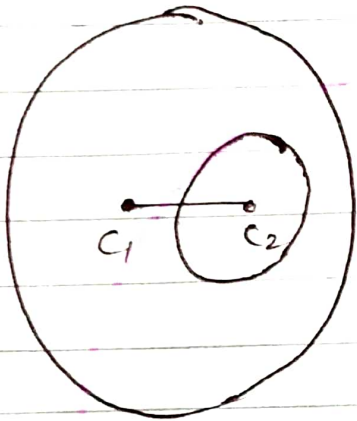
2 DCT

$$|r_1 - r_2| < C_1 C_2 < r_1 + r_2$$



1. DCT

$$C_1 C_2 = |r_1 + r_2|$$



$$C_1 C_2 < |r_1 + r_2|$$

no common tangent is possible

MANTRAS