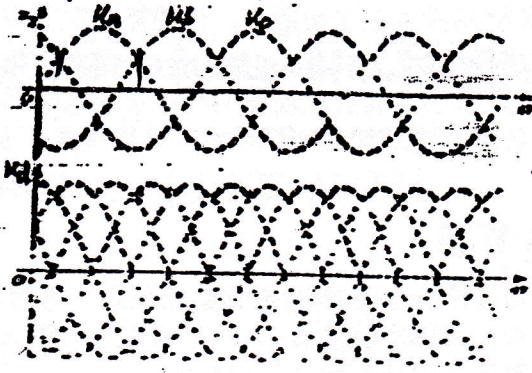
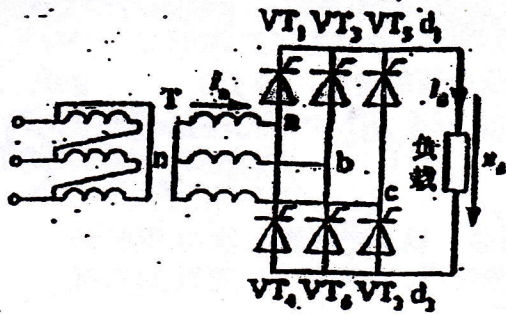


2. 三相桥式全控整流电路，频率 50Hz，阻感负载 $R=6\Omega$ 、 L 值极大。问

- (1) 整流输出电压最大时，触发角 α 为多少？ 0° 0°
- (2) 若最大整流输出电压的平均值为 234V，试确定变压器二次电压的有效值。
- (3) 若电路在上述情况下工作，应选择额定电压和额定电流为多少的晶闸管（分别考虑 2 倍的安全裕量）。

(18分)



$$(2) U_d = 2.34 U_2 \cos \alpha = 234V$$

$$\therefore U_2 = 100V$$

$$U_d = 2.34 U_2 \cos \alpha$$

$$U_2 = \frac{U_d}{2.34} = 100V$$

$$U_d = I_d R = 234V$$

$$I_d = \frac{U_d}{R} = \frac{234V}{6\Omega} = 39A$$

$$I_d = \frac{U_d}{R}$$

$$I_d = \frac{U_d}{R} = \frac{234V}{6\Omega} = 39A$$

$$I_d = \frac{U_d}{R} = \frac{234V}{6\Omega} = 39A$$

$$(3) U_d = 234V$$

$$I_d = \frac{U_d}{R} = \frac{234V}{6\Omega} = 39A$$

$$I_d = 39A$$

$$I_{VT} = \frac{1}{\sqrt{3}} I_d = 22.5A$$

$$I_{VT(AN)} = \frac{I_{VT}}{1.57} = \frac{22.5A}{1.57} = 14.3A$$

$$U_{VT(AN)} = \sqrt{2} U_2 = 141.4V$$

$$I_2 = I_{VT} = \frac{1}{\sqrt{3}} I_d = 22.5A$$

$$I_{VT} = 22.5A$$

$$I_{VT(AN)} = \frac{I_{VT}}{1.57} = 14.3A$$

$$I_{VT(AN)} = I_{VT(AN)} \times 2 = 28.6A$$

$$U_{VT(AN)} = \sqrt{2} U_2$$