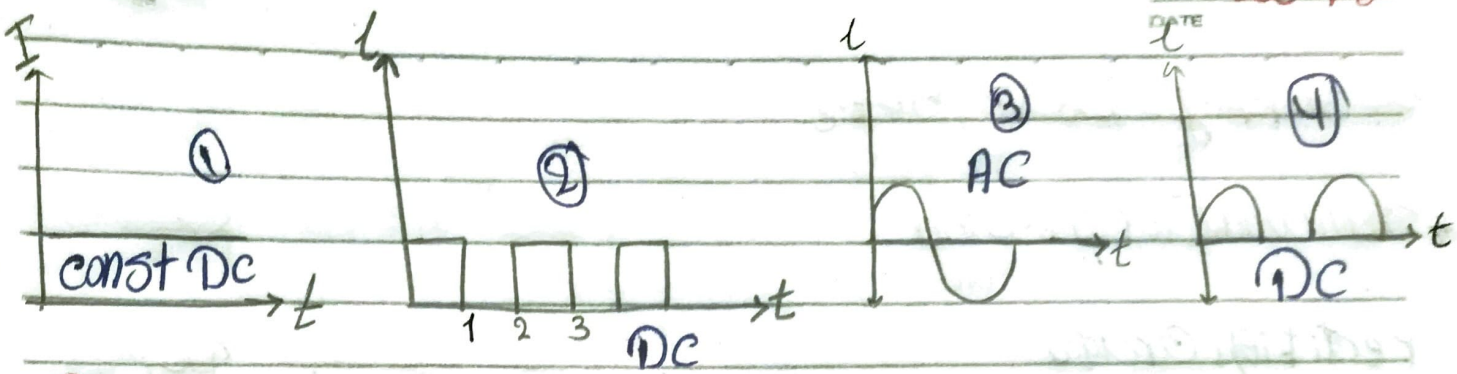
PAGE lec 1:-
DATE



*DC

① تحديد الاتجاه
② تحديد القيمة ← ثابت
① ② ④ ← متغير

*AC ③ متغير الاتجاه والقيمة

$i = I_m \sin(\omega t \pm \phi)$

$\omega t = \theta$ ← phase angle

$\omega = 2\pi f$

$f = 1/T$

$R = \rho l/A$

$R \propto l$

$R \propto 1/A$

$$I_{rms} = \sqrt{\int_0^T I_m^2 \sin^2\theta \, d\theta}$$

$$= \frac{I_m}{\sqrt{2}}$$

PAGE lec 3 :-
DATE

~~supply: 220V, 50Hz~~

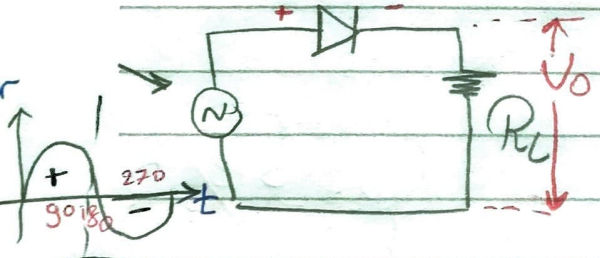
* Semiconductors & Diod.

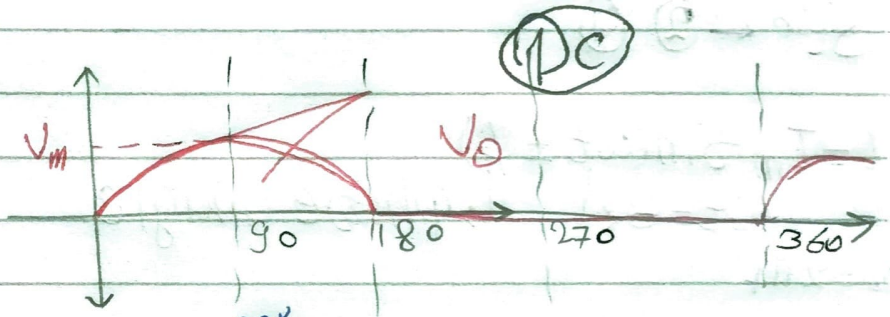
rectifien circuits

(Half_wave) : Full_wave

AC in → rectifier → DC out

#WR



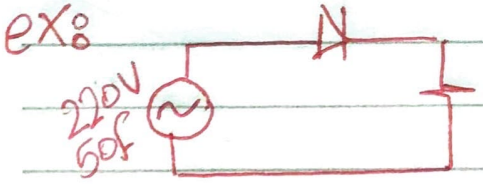


AC

$r = V_m \sin\theta$

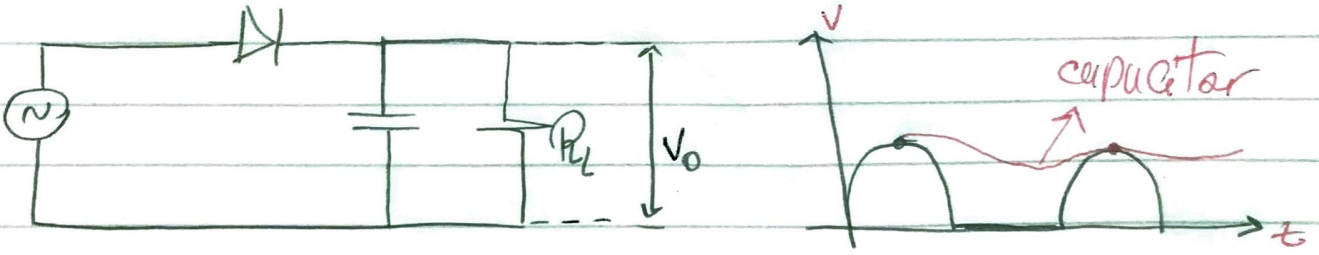
$$V_o = \frac{1}{2\pi}\int_0^{2\pi} V_m \sin\theta \, d\theta = \frac{V_{max}}{\pi}$$

ex:

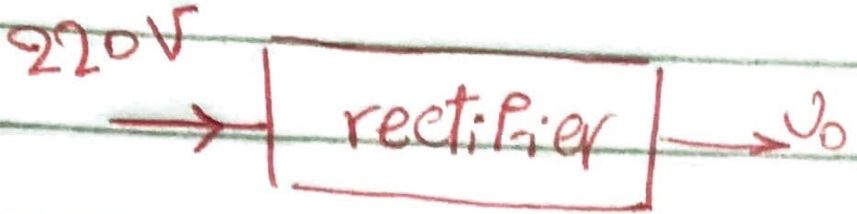


$V_{rms} = \frac{V_m}{\sqrt{2}}$ ∴ $V_m = 220\sqrt{2}$ V

$$V_o = \frac{V_m}{\pi}$$



eg:



$$V_m = V_{rms}\sqrt{2} = 220\sqrt{2}$$

$$V_o = \frac{V_m}{\pi} \quad \text{--- (V)}$$

HWR