END OF PAPER

1° (a) $\frac{2\sqrt{3}}{\pi} V_{dc}$

(c) 540 V

(e) $I_n = \sum_{n=1,5,7,\ldots}^{\infty} \left(\frac{\sqrt{6}}{\pi n} \frac{V_{LL}}{R} \right)$

3° b (i) D

(ii) $\frac{1}{1-D}$

4° a) i) $V_2 = \left(\frac{D}{1-D}\right) \frac{N_2}{N_1} V_1$

ii) 500 μH

b) i) $\frac{1}{\sqrt{L_r C_r}}$

ii) $\frac{1}{2} \frac{1}{\sqrt{1 + Q^2 \left(\frac{1}{\omega_n} - \omega_n\right)^2}}$, $Q = \frac{\omega L_r}{R_T}$,

$R_T = \left(\frac{N_2}{N_1}\right)^2 \frac{8R}{\pi^2}$, $\omega_n = \frac{\omega}{\omega_r}$, $\omega_r = \frac{1}{\sqrt{L_r C_r}}$