

76420

3(a)

$$H(s) = \frac{1}{(s+1)(s+3)}$$

$$T=2$$

Replace  $s$  by

$$\frac{2}{T} \left[ \frac{(z-1)}{(z+1)} \right]$$

$$H(z) = \frac{1+z^{-2}}{8+4z^{-1}}$$

Q. 5 (a)

$$X(z) = \{2, (0.5 - j1.207), 0, (0.5 - j0.207), 0, (0.5 + j1.207), 0, (0.5 + j0.207)\}$$

x 5 (b)  $y(n) = x(n) * h(n)$

$$= \{1, 3, 6, 9, 7, 4, 0, 0\}$$