

SOLUZIONE

FILA 1 - CIRCUITO RESISTIVO CON 1 SOLO GENERATORE DI TENSIONE

1. a) $R_{eq} = R1 + R2 + (R3//R4) + R5 = 10 + 20 + (10//40) + 12 = 50 \text{ [K}\Omega\text{]}$

$$R_{CD} \equiv R3//R4 = 8 \text{ [K}\Omega\text{]}$$

b) $I_{cc} = V_{cc} / R_{eq} = 10 / 50 = 0,2 \text{ [mA]}$

c) $V_{cd} = V_{cc} * R_{CD} / R_{eq} = 10 * 8 / 50 = 1,6 \text{ [V]}$

d) $I_{R3} = I_{cc} * R4 / (R3+R4) = 0,2 * 80 / (80+20) = 0,2 * 0,8 = 0,16 \text{ [mA]}$

$$I_{R4} = I_{cc} * R3 / (R3+R4) = 0,2 * 20 / (80+20) = 0,2 * 0,2 = 0,04 \text{ [mA]}$$

$$I_{cc} = I_{R3} + I_{R4} \quad 1^\circ \text{ LEGGE DI KIRCHHOFF}$$

FILA 2 - CIRCUITO RESISTIVO

2. a) $R_{eq} = 1 / (1/R1 + 1/R2 + 1/R3) = 1 / (1/5 + 1/10 + 1/50) = 3,125 \text{ [K}\Omega\text{]}$

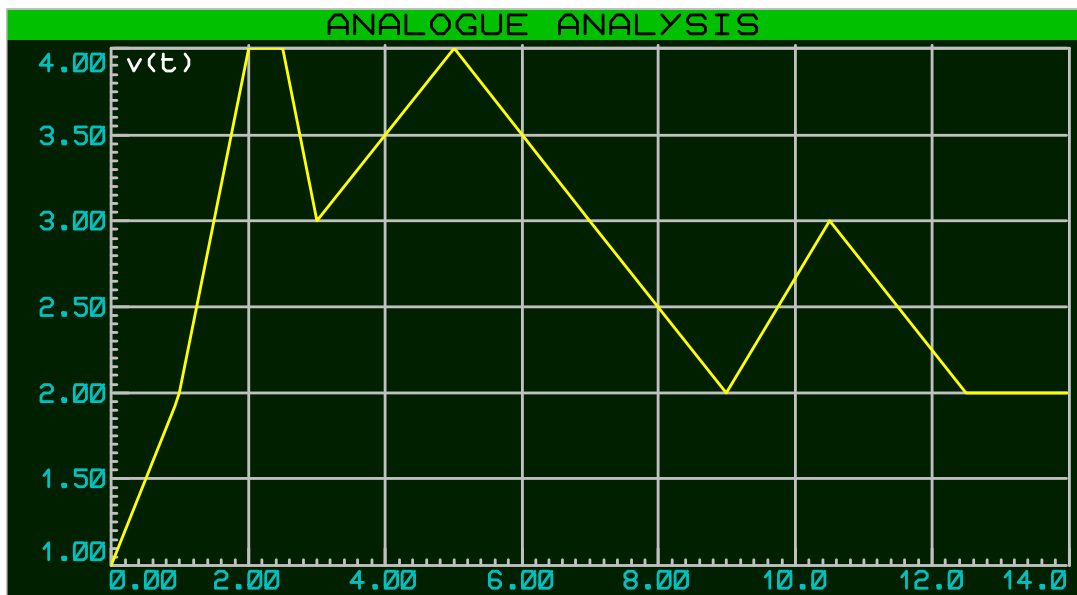
b) $I_{R1} = V_{AB} / R1 = 12 / 5 = 2,4 \text{ [mA]}$

$$I_{R2} = V_{AB} / R2 = 12 / 10 = 1,2 \text{ [mA]}$$

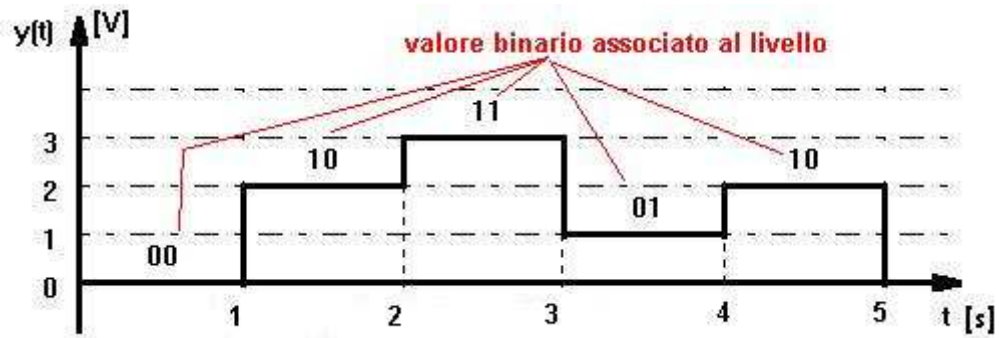
$$I_{R3} = V_{AB} / R3 = 12 / 50 = 0,24 \text{ [mA]}$$

FILA 1 - DISEGNO DI FORME D'ONDA

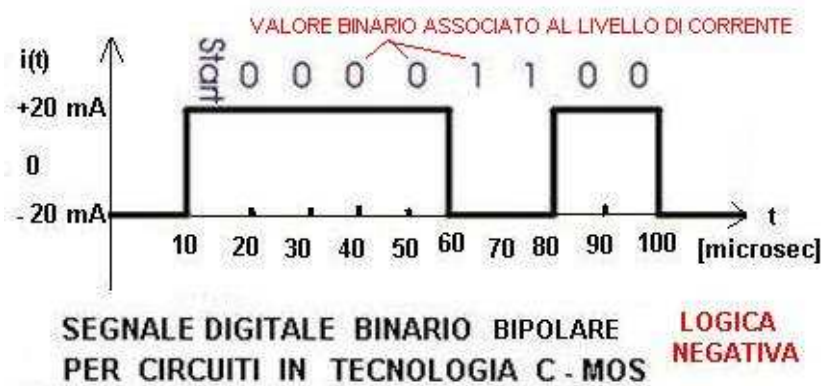
3. a) tensione analogica unipolare positiva



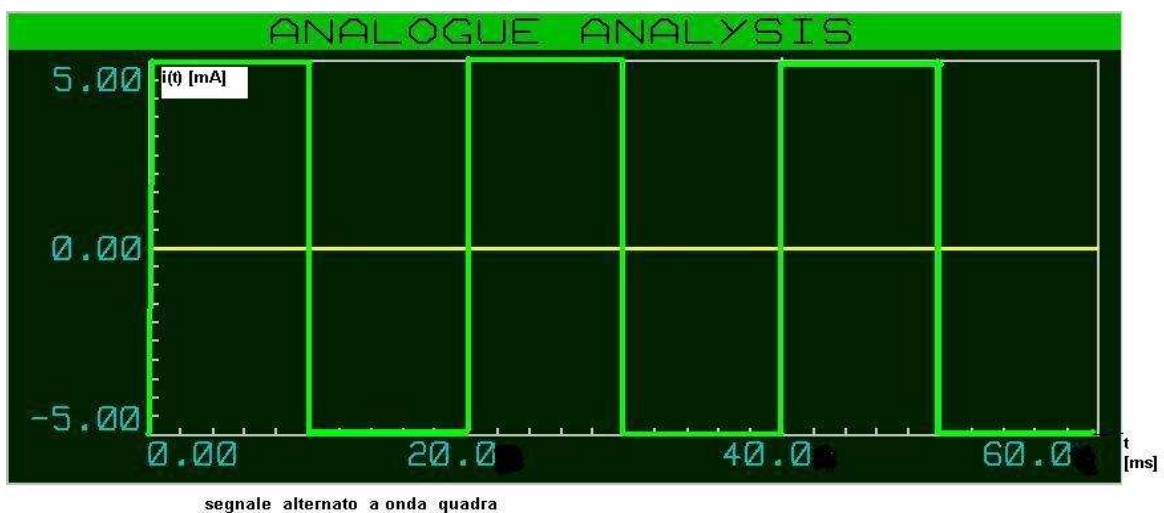
b) tensione digitale multilivello



c) corrente digitale binaria bipolare , in logica negativa



d) corrente alternata, non sinusoidale



4. FILA 2 - DEFINIZIONE DI FORME D'ONDA

- Tensione analogica unipolare positiva
- Corrente alternata di forma triangolare