Assignment Sheet - 12

1. Find the Z transform of the sequence $a^{n-1}H(n-1), n = 1,2,3 \ldots$.

2. Find the inverse Z transform of the function $\frac{z^3}{(z^2+1)(z-2)}$.

3. Use Z transform to solve the initial value problem $f(n + 2) - 5f(n + 1) + 6f(n) = 0$, $f(0) = 1, f(1) = 1$.

4. Use Z transform to solve the initial value problem $f(n + 2) - 7f(n + 1) + 10f(n) = 0$, $f(0) = 6, f(1) = 2$.

5. Use Z transform to solve the initial value problem $(n + 1)f(n + 1) - f(n) = 0$, $f(0) = 1$. 