UNIT-2

(Lecture-2)

Poles and Zeroes

Poles

- **The poles of a Laplace function are the values of s that make the Laplace function evaluate to infinity. They are therefore the roots of the denominator polynomial**

- **10 (s + 2)/[(s + 1)(s + 3)] has a pole at s = -1 and a pole at s = -3**

- **Complex poles always appear in complex-conjugate pairs**

- **The transient response of system is determined by the location of poles**

Zeros

- **The zeros of a Laplace function are the values of s that make the Laplace function evaluate to zero. They are therefore the zeros of the numerator polynomial**

- **10 (s + 2)/[(s + 1)(s + 3)] has a zero at s = -2**

- **Complex zeros always appear in complex-conjugate pairs**