

Assignment-4

1. Find Inverse Laplace transform of the following functions:

$$(a) \frac{2s^2 - 6s + 5}{s^3 - 6s^2 + 11s - 6}$$

$$(b) \frac{4s + 5}{(s-1)^2(s+2)}$$

$$(c) \frac{2s^3}{s^4 - 81}$$

2. Find Inverse Laplace transform of the following functions:

$$(a) \frac{2se^{-3s}}{(s^2+1)^2}$$

$$(b) \frac{2-2e^{-3s}}{s^2+4}$$

$$(c) \frac{s(1+e^{-\pi s})}{(s^2+1)}$$

$$(d) \frac{2se^{-s}}{(s+1)^2}$$

3. Find Laplace transform of the following functions

$$(a) (t-1)^2 u(t-2)$$

$$(b) 4u(t-\pi) \cos t$$

$$(c) 9u(t-\pi) \sin t$$

$$(d) e^{-3t} u(t-2)$$