Question Bank in Inverse Laplace Transforms

5 marks Questions

1. Find Inverse Laplace Transform of $\frac{2s-1}{s^2+8s+29}$
2. Find Inverse Laplace Transform of $tan^{-1}(\frac{s+a}{b})$
3. Find $L^{-1}\left\{\frac{1}{s(s^2+4)}\right\}$

6 marks Questions

1. Find the Inverse Laplace Transform of $\frac{(s+3)^2}{(s^2+6s+5)^2}$ by using convolution Theorem.
2. Find the Inverse Laplace Transform of $\frac{1}{(s-2)^4(s+3)}$ by using method of partial fractions.
3. Find the Inverse Laplace Transform of $\frac{(s+2)^2}{(s^2+4s+8)^2}$ by using convolution Theorem.
4. Find $L^{-1}\left(\frac{s^2}{(s^2+5)(s^2+4)}\right)$
5. Find the Inverse Laplace Transform of $\frac{(s+3)^2}{(s^2+6s+5)^2}$ by using convolution Theorem.
6. Find $L^{-1}\left[\log\frac{(s^2+4)}{(s+2)^2}\right]$ by using convolution Theorem.
7. Find $L^{-1}\left\{\frac{4s+12}{s^2+8s+12}\right\}$
8. Find the inverse Laplace Transform of $\log\left(1+\frac{a^2}{s^2}\right)$.
9. Using convolution Theorem, find the Inverse Laplace Transform of $\frac{s^2}{(s^2+9)(s^2+4)}$
10. Find the Inverse Laplace Transform of $\frac{s+29}{(s+4)(s^2+9)}$.
11. Find $L^{-1}\left\{\log\left(1-\frac{1}{s^2}\right)\right\}$
12. Find inverse Laplace transform of $\log\left(\frac{s^2+a^2}{\sqrt{s+b}}\right)$
13. Determine inverse Laplace Transform $L^{-1}\left\{\frac{s}{(s^2+1)(s^2+4)}\right\}$, using Convolution theorem.
14. Determine the inverse Laplace transform of $\log\left(\frac{s^2+a^2}{(s+b)^2}\right)$

8 marks Questions

1. Find Inverse Laplace Transform of (i)$\dfrac{2s+3}{s^2+2s+2}$(ii)$\dfrac{s+2}{s^2(s+3)}$
2. Find $L^{-1}\left\{\dfrac{(s+3)^2}{(s^2+6s+13)^2}\right\}$
3. Find the inverse Laplace transform of $\dfrac{s^2+2s+3}{(s^2+2s+5)(s^2+2s+2)}$
4. Using Convolution theorem find the Inverse Laplace Transform of $\dfrac{(s+2)^2}{(s^2+4s+8)^2}$
5. (i) Find $L^{-1}\left\{\dfrac{s+2}{s^2-4s+13}\right\}$
   (ii) Find $L^{-1}\{\tan^{-1}(s)\}$