Evaluate the following integrals (each question carries 4 marks)

1. $\int \dfrac{dx}{\cos(x+a)\,\cos(x+b)}$

2. $\int \dfrac{e^x dx}{(e^x+1)(e^x-1)}$

3. $\int \dfrac{(x^2+x+1)dx}{(x+1)^2(x+2)}$

4. $\int_{\pi/6}^{\pi/3} \dfrac{\sin x + \cos x}{\sqrt{\sin 2x}}\,dx$

5. $\int_{0}^{\pi/2} \sin 2x \, \tan^{-1}(\sin x)\,dx$