1.   Given

$$f(t) = -\frac{3}{2}t^6 + \frac{1}{5}e^{-6t} - 4\cos\frac{1}{\sqrt{2}}t \, .$$

Find the Laplace transform of the function.

[5 marks]

2.   (i) State the First Shift Theorem.

(ii) By using the First Shift theorem, find the Laplace transform of

$$f(t) = e^{-5t}\cos 7t$$

[5 marks]