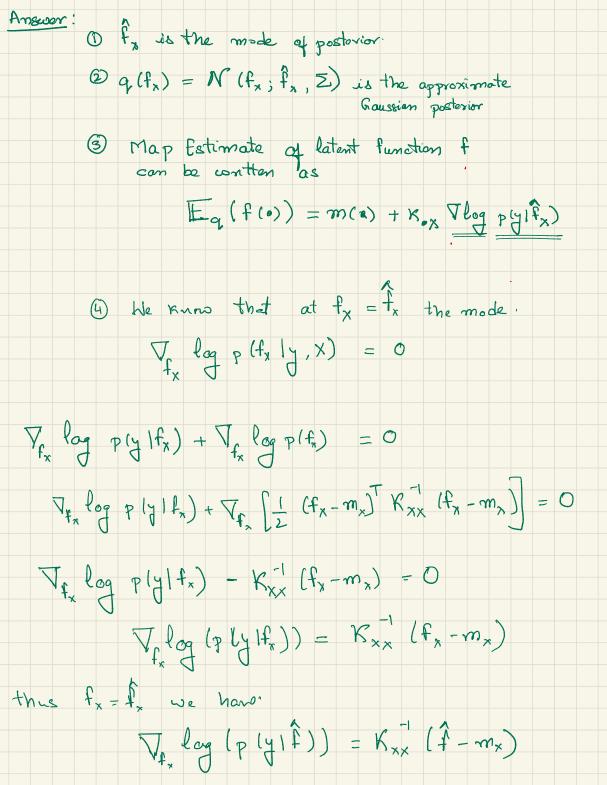
I(c). Assume that you have found the mode \hat{f}_x of this posterior (i.e the MAP-estimate) and used it to construct an appropriate Gaussian posterior $q(f_x) = N(f_x; \hat{f}_x, \Sigma)$ on fx, wher I is some covariance matrix which does not feature in the following. Show that the MAP estimate for the latent function of which can be contiton compactly as $\mathbb{E}_{q}[f(o)] = m_{o} + \kappa_{o} \times \nabla \log p(y|\hat{f}_{x})$ that is using the gradient of the log-livelihood.



(E) As use know f the approximate Gaussian posterior at training points $q(f_X) = \mathcal{N}(f_X; \hat{f}, \Sigma)$ 6 The posterior predictions at f_x (lecture-14, f_x) f_y f_y) f_y = N(fx; mx + Kxx K-1 (f-mx), Eposterior) Thus Eq (f ()) = m () + x, x K_{XX} (f- m_X) as expedid value is precisely mean of gaussian. From (4) we have at $f_n = \hat{f}$ $K_{nx} (\hat{f} - m_x) = V_{f_x} (g_x (p_y + f_y))$ Thus En (f()) = m(·) + K, x 7 (og (P(7/14))