Lecture 22 Worksheet (ECON211), AY 2025-26 [Date: 18 Sep 2025]

1. Find and classify the stationary points for the function: $f(x, y) = x^4 + 2y^4 - 8x^3 + \frac{16}{3}y^3 - 32y^2 + 16x^2 + 6$.

2. Hafsa's utility is dependent on consumption of two goods: reels (r) (in hours) and pizza (p) (in slices). The price of reel is ₹10 and the price of a slice of pizza is ₹100. Find the equilibrium quantity of reels and pizza given that the budget that Hafsa has allocated to the two goods is ₹2000. The utility function is $u = r^{1/2}p^{1/2}$.

3. A small joint in Besant Nagar sells rice and fish meal. The main inputs are rice (r) and fish (f) and the production function is $3r^{1/3}f^{1/3}$. The price of a kg of rice is ₹20 and the price of a fish is ₹100. The daily budget of the eatery is ₹2000. Find the equilibrium level of inputs.