

Econ 590: Fall 2001  
Professor L.K. Raut  
Due Date: October 3, 2001

Your name \_\_\_\_\_ Student ID# \_\_\_\_\_

1. Consider the utility maximization model of household fertility choice that we considered in the class. Suppose the utility function  $u(n, z)$  of a household over the aggregate marketed good  $z$  and the desired number of surviving children  $n$  is given by  $u(n, z)$ .

Suppose the price of the aggregate marketed good is  $p_z = 1$  and the cost of a surviving child is  $p_n$ . Suppose the household has income  $I$ .

- (a) Write down the equation for budget constraint of the household.
  - (b) Show graphically the budget set, indifference curve, and optimal choice of fertility level.
  - (c) Explain how the demand for children will be affected when mother gets higher education and thus have better chance of working and earning higher wages, explicitly stating if the effect is through child cost,  $p_n$ , through household income  $I$ , or both.
  - (d) Explain how the demand for children will be affected when government spend more money on education, explicitly stating if the effect is through child cost,  $p_n$ , through household income  $I$ , or both.
2. Answer these questions very precisely.
    - (a) What are the private or individual benefits of education? Explain each type of private benefits with suitable examples.
    - (b) What are the public or social benefits of education? Explain each type of social benefits that may accrue to the family members, community, or the whole society, with suitable examples.