

Social Science Approaches to Development (HUL286)

Major

27 November, 2006 8.00am-10.00am

Maximum Marks: 40 marks

Part I (10 marks)

Attempt **one** question.

1. How is poverty measured? Does the method depend on our concept of poverty? How does the relationship between research and reality affect the measurement of poverty? Discuss in relation to Jodha's findings.

Or

2. Why have most poverty alleviation schemes been less than successful? What information does Sainath's article convey to us in this regard? Should we adopt direct or indirect approaches to poverty alleviation?

Part II

Do **both** questions (each question is for 10 marks)

1. What do you think would be a critical variable to the success of approaches such as participation, empowerment and decentralization? Are these genuine approaches to re-orienting development towards a more people-oriented one? Can these approaches work with globalization?
2. What were the factors (social, economic, political, cultural) which prevented an understanding of women's role in development? Does "development" benefit men and women equally? What kinds of steps would ensure that women's role in development is recognized and that their burden does not increase with "development"? Why do you think high per capita income states like Haryana have low welfare of women?

Part III

1. Write short notes on one of the following topics:

a) environment and development b) NGOs and development c) technology/IT and development d) comparing India/China e) The Asian Tigers f) democracy and development g) population and development e) education and development (5 marks)

2. a) Define social capital and distinguish between bridging and bonding social capital.

b) Who wrote "Women's Role in Economic Development"?

c) What does BPL and APL stand for?

d) What is the deprivation trap?

e) What is meant by post-development? (5 marks)

Let $U = \{e_1, e_2, \dots, e_n\}$ be a set of elements and S_1, S_2, \dots, S_m be subsets of U . The *set cover problem* is as follows: Are there k subsets from the given collection whose union is U ? Prove that this problem is NP-complete. (2+8)

You are a currency trader and want to convert 100 dollars into euros. There are many currencies being traded on the currency exchange and for every pair of currencies (a, b) you know the number of units of b you can get for one unit of a . As an example, consider the following situation: we get 1.25 Euros for every dollar, 50 rupees for every dollar and 0.26 Euros for every rupee. Instead of converting the dollars, directly into euros, I am better off by converting them first into rupees and then into euros (i get 5000 rupees which gives me 130 Euros). You want to determine the best way to convert (possibly through multiple intermediate currencies) so that you get the maximum number of Euros. Give an efficient algorithm to do this and compute its running time. (5+3)

How would you modify your algorithm to take care of transaction charges (when you convert 1 unit of currency a , you lose x units of a as transaction charges and only $1 - x$ units are converted). (2)

You are the room-booking-incharge at the UG Section at IIT Delhi and you have a large number of rooms in which you can schedule the Major exams. You receive requests from the various course-coordinators for rooms to hold the exams. Each request specifies the start and end time of the exam. You would like to accommodate all these exams in the smallest possible number of rooms. Give an efficient algorithm to assign each exam to a room. Prove that the number of rooms used is the minimum possible. (10+5)

You are given the n roots, r_1, r_2, \dots, r_n of a degree n polynomial and the value of the polynomial at $x = 0$. Give an efficient algorithm to determine the $n + 1$ coefficients of the polynomial. What is the running time of your algorithm? (8+2)