

Resources Economics Preliminary
Examination

June 3, 1977

You are required to write on four of the questions below conforming to the options presented. The examination is for a four hour period, 8:00 to 12:00. Pace yourself in responding to questions considering this four hour restriction; i.e., do not spend an undue amount of time on any specific question at the expense of the other questions.

A. From the following set of four questions, select any three.

1. Strip mining of lignite is accelerating in Leon County. Discuss the long run implications of this activity on provision of public services such as schools, roads, and other services, agriculture and the socio-economic composition of the county. Recommend an investment strategy that the county could adopt to maximize the net social benefits from this resource through time?
2. What is a "public good"? What are some alternative approaches to estimating the demand for a public good? Discuss the problems associated with each approach that you describe.
3. Section 208 Planning "Non Point Pollution" has rather strong implications for agriculture. The purpose of the law is to reduce agricultural pollution such as erosion and runoff of fertilizers and pesticides. Assume you are the economist in charge of 208 planning for agriculture in Texas. Outline carefully how you would do the analysis with a clear stating of your objectives of the analysis; i.e., method, data, types of answers and what they mean. Lastly, outline alternative methods for reducing agricultural erosion with the implications of each control alternative.
4. A recent discovery has been made by the Texas Agricultural Experiment Station. A new labor-saving technique for harvesting onions has considerable potential for the Lower Rio Grande Valley. How would you evaluate the economic consequences of this innovation in a welfare economics context?

B. From the following set of three questions, select one.

1. You have been asked by the Texas Water Development Board to advise them regarding their benefit-cost analysis of the forthcoming Texas Water Plan. They have heard about indirect benefits and are most excited. How will you advise them regarding the propriety of including indirect benefits in their economic evaluation.
2. "There is too much pollution in agriculture because farmers have no concern for the public interest." Critically evaluate this statement in terms of both economic theory and the realities of the situation.
3. Export base theory growth models and the Harrod-Domar growth model seem to reach opposite conclusions about the factors that stimulate growth of a region. Discuss each of these models, including their strengths and weaknesses.