

**Department of Economic Sciences**  
**IISER Bhopal**  
**Semester Examination-2019**  
**ECO - 312**

Date: .04.2019

Time: 1.5 hours

Full marks: 30

1. a. Do a cost-benefit analysis in using present value and determine which project is worth investing. The rate of discount is 5%.

	Benefit in Rs.			
Years	0	1	2	3
Project A	-30	20	20	20
Project B	-30	10	10	10

- b. Define and explain the Ramsey Rule of social discounting.

(3+2 = 5)

2. Explain Duncan Foley's argument with respect to controlling global warming. How does it compare with the stern Review?

(3+2 = 5)

3. a. Consider the following regression

$$Y_{it} = \alpha_0 - 0.02346 \text{ Max } T_{it} + \varepsilon_{it}$$

$$Y_{it} = \alpha_0 - 0.01376 \text{ Max } T_{it} - 0.04999 \text{ Min } T_{it} + \varepsilon_{it}$$

Explain the change in the coefficient on Max  $T_{it}$  on adding Min  $T_{it}$  as a regressor using the concept of omitted variable bias.

- b. What are the consequences of omitted variable bias?

(3+2 = 5)

4. Explain the hedonic pricing method of valuation using the example of the housing market. What is the crucial assumption drawing this method?

(4+1 = 5)

5. In the 1980s, Tennessee conducted an experiment in which kindergarten student were randomly assigned to 'regular' and 'small' classes, and given standardized tests at the end of the year. (Regular classes contained approximately 24 students, and small classes contained approximately 15 students) Suppose that, in the population, the standardized tests have a mean score of 925 points and a standard deviation of 75 points. Let *Small Class* denote a

binary variable equal to 1 if the student is assigned to a small class and equal to 0 otherwise.  
A regression of *Test Score* on *Small Class* yields

$$\widehat{TestScore} = 918.0 + 13.9 \times SmallClass, \quad R^2 = 0.01, \quad SER = 74.6$$

(1.6)    (2.5)

- a. Do *Small Class* improve test score? By how much? Is the effect large? Explain.
- b. Is the estimated effect of class size on test scores statistically significant? Carry out a test at the 5% level.
- c. Construct a 99% confidence interval for the effect of *Small Class* on test score.

[(2+2+1)]