M.A. 2nd Year Fourth Semester Examination 2017

Subject: Economics

Paper: Public Economics-II

Time: 2 Hours   Full Marks 30

Group A

(answer any two)

1. Suppose tax evasion has a moral cost associated with it: the higher the amount evaded, the higher is the moral cost of the evader.
   a. Can moral cost explain the observed empirical regularity of existence of large number of non-evaders of income tax?
   b. Show that in presence of moral cost economic incentive may replace moral incentive.

   $$3 + 3 = 6$$

2. Consider a taxpayer with exogenous income Y and reference dependent utility function with diminishing sensitivity. The reference income level R is exogenous to a taxpayer's evasion decision.
   a. Does interior solution to the tax evasion problem always exist?
   b. On assumption of existence of an interior solution show that the amount of evasion is monotonically increasing in R.

   $$3 + 3 = 6$$

3. Consider an economy with proportional income tax. Since auditing is costly the Income tax department (ITD) designs an optimum audit strategy against possible evasion. Suppose in doing so it uses information available in reported income alone.
   a. If ITD does not commit to its audit strategy, intuitively explain what should be the characteristics of the optimum audit function?
   b. What happens to the optimum audit function if ITD commits to its audit strategy?
   c. Show that the effective tax code is regressive under the optimum audit function in either of the two cases.

   $$2 + 2 + 2 = 6$$

[Turn over

Group B

(answer any one)

4. a. Economic inefficiency arises through market failure. What is the market failure in the overlapping generation economy?

   b. Governments frequently manipulate the interest rate as part of economic policy. Is this a method for ensuring that the Golden Rule is achieved?

$$3 + 3 = 6$$

5. a. Present a case for government intervention in a pension system.

   b. Consider an economy where individuals live for two periods only. Their utility function over consumption in period 1 and 2 given by $U = 2 \log C_1 + 2 \log C_2$. They have labor income of $100 in period 1 and labor income of $50 in period 2. They can save as much of their income in period 1 as they like in bank accounts, earning interest rate of 5 per cent per period. They have no bequest motive, so they spend all their income before the end of period2.

   i. How much do the consumers save in the first period?

   ii. Suppose the government introduces a social security system that will take $10 from each individual in period 1, put it in a bank account, and transfer it back to them with interest in period 2. What is the effect of this social security system on private savings? How does the system affect total savings in society?

$$2 + (2 + 2) = 6$$

Group C
(answer any two)

6. a. Explain why in developing countries we observe more decentralized organization of a production activity than that we observe in the developed countries?

   b. The empirical research has established that the construction of "Golden Quadrilateral" in India has increased formal output and employment at the non-nodal districts (nodal districts are the districts locating the big cities). Is this consistent with the theory propounded in (a)? Is there any alternative explanation to the empirical observation? Explain.

$$3 + 3 = 6$$

7. Consider a city on an island, which is 10 blocks wide and $\bar{x}$ blocks long with the employment centre located at its one end. Each unban resident consumes 0.001 square block of land. While the urban income is y, the surrounding agricultural area has income level of $y_A < y$. For the rural population probability of landing a job in the city is 10%. The transport cost in the city is given by t.
   a. Derive the equilibrium population and the size of the city.
   b. How does the population of the city respond to a fall in y_A, a rise in y and a fall in t ?

$$3 + 3 = 6$$

8. a. What are the assumptions of the basic urban model?

   b. Using the basic urban model explain why the taller residential buildings are located near the employment centre of a city.

$$2 + 4 = 6$$