

**M.A. 2<sup>nd</sup> Year Third Semester Examination 2018 (OLD)**

**Subject:** Economics

**Paper:** Public Economics I

**Time:** ...2. Hours

**Full Marks 30....**

Answer any five questions:

6×5=30

1. How would you measure social cost of public fund? Argue that in a many commodity economy lower excess burden can be achieved through tax smoothing. 3 + 3 = 6

2. a. Argue that the measure of “leakage in government revenue” underestimates the efficiency loss due to taxation.

b. Explain how one would measure the efficiency loss due to taxation in a general equilibrium framework. 2 + 4 = 6

3. Show that the general equilibrium incidence of taxing all the inputs of production of a commodity is the same as taxing the output at the same rate. 6

4. a. Derive the Ramsey rule of optimum commodity taxation in a one-person economy.

b. Suppose the individual’s utility function takes the following form:

$$U = \sum_{i=1}^2 a_i \log x_i + A \log(1 - L)$$

where  $a_1 + a_2 + A = 1$ . How do you compare the tax rates? Explain your answer.

4 + 2 = 6

5. Differentiate between exemption and zero-rating of a commodity in a Value-Added-Tax (VAT) system. If a government decides to extend favorable tax treatment to a commodity, which one of the two instruments, exemption and zero-rating would be preferred and why?

3 + 3 = 6

6. Explain why an optimum income tax schedule should not accommodate negative marginal tax rate. 6

7. Consider the income tax function:  $T(z) = az + bz^2 - c$  with  $a > 0, b > 0$  and  $c > 0$ .

a. Is this tax function progressive, regressive or proportional?

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[ Turn over

- b. Assuming a consumer of skill  $s$  has his/her utility function given as  $U = x - l^2$  find out the income level ( $z$ ) of the consumer that maximizes his/her utility given the tax function  $T(z)$  specified above. 2
- c. Is  $T(z)$  an optimum income tax function? Justify your answer. 2