

BACHELOR OF ARTS EXAMINATION, 2024

(3rd Year, 1st Semester)

ECONOMICS

PAPER : Core 5.2

(Public Economics)

Time : Two Hours

Full Marks : 30

*Answer **any two** questions.*

The figures in the margin indicate full marks.

1. (a) Consider an economy with two goods and two consumers with preferences $U^h = \min\{x_1^h, x_2^h\}$. Suppose endowments are as follows :

	Good 1	Good 2
Consumer 1	2	4
Consumer 2	4	2

- (i) By drawing an Edgeworth box, display the Pareto efficient allocations if the economy has an endowment of one unit of each good.
- (ii) Display Pareto efficient allocations if the endowment is 1 unit of good 1 and 2 units of good 2.
- (iii) What would be competitive equilibrium prices for parts a and b ?

(2)

(b) Consider a two-good economy (one private good and one public good) and a large number of H individuals with single-peaked preferences for public good. Suppose that the provision of the public good is decided by majority voting and it costs one unit of private good to produce one unit of public good. The cost is equally divided among H individuals. Show that the majority voting outcome is Pareto efficient if the median marginal rate of substitution is equal to the average marginal rate of substitution.

(c) If insufficient abatement is very costly, which of taxation or licenses is preferable? (1+1½+2½)+(6)+(4)

2. (a) Show that a tax function must be average rate progressive (the average of tax rises with income) if $MRT > ART$.

(b) The utility function of a consumer has the constant elasticity of substitution form

$$U = [\infty [L - l]^{-\rho} + [1 - \alpha]x^{-\rho}]^{-1/\rho}$$

Let the budget constraint be $x = b + wl$, where $b > 0$ is the lump sum grant received from the government.

where L : total available time (24 hours a day)

l : labour hours

Find out $\frac{\partial l}{\partial w}$. Under what conditions is this negative?

(c) Suppose leisure and income are perfect substitutes. Describe the impact of proportional income tax on labour hours. 3+8+4

(3)

3. (a) (i) What is the difference between fiscal deficit and primary deficit?

(ii) “High income earners should pay a high tax because their labour supply is inelastic and revenue raised can be used to assist those on low incomes.” Distinguish between the positive and normative components of this statement.

(iii) Discuss about direct and indirect costs of introduction of PM Fasal Bima Yojana.

(b) The utility function U is defined by

$$U = a \log(C_1 - C_0) + (1 - a) \log(C_2 - C_0)$$

where C_0 is a constant.

Derive elasticity of consumption and savings with respect to the interest rate. 2+3+4+(4+2)

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