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# Ph. D. COURSE IN ECONOMICS

# (PHDEC)

## Term-End Examination

## June, 2026

### REC-102 : ECONOMIC THEORY

*Time : 3 Hours* *Maximum Marks : 100*

***Note :*** *Attempt the questions as per instruction given below each Section.*

## Section—A

***Note :*** *Answer any **two** questions from this Section.* 2×20=40

1. A consumer has the utility function $U = x_1^{\alpha} x_2^{\beta}$ where $\alpha + \beta = 1$.

   The prices of the two goods are $p_1$ and $p_2$, and her income is M. Derive her Hicksian demand function and expenditure function.

2. State the Walras's law. Sketch a proof of the existence of general equilibrium under pure exchange, making relevant assumptions.

3. Compare the set-up of the Ramsey infinite-horizon model and the overlapping generation model.

4. Explain the Arrow Impossibility Theorem. Sketch a proof of the theorem, stating the assumptions explicitly.

## Section—B

***Note :*** *Answer any **five** questions from this Section.* 5×12=60

5. (a) Explain the Von-Neumann utility function and state its basic properties.

   (b) Explain the Arrow-Pratt measure of risk-aversion.

6. What is the impact of the presence of asymmetric information on the equilibrium outcomes of a competitive market ? Explain the concepts of adverse selection and moral hazard, clarifying the difference between the two.
7. What do you understand by the term 'Business Cycle' ? Discuss the main features of Real Business Cycle Theory.
8. Explain the concept of rational expectations. How is it different from adaptive expectations ? Discuss a simple model of money demand and supply in the presence of rational expectations.
9. Explain the following :
   (a) Roy's identity
   (b) Shephard's Lemma
10. Briefly discuss the Gibbard-Satterthwaite theorem.

11. (a) Explain the concept of the following :

(i) Dominant strategy

(ii) Sub-game perfect equilibrium

(b) In the following game, find the dominant strategy :

| | L | R |
|---|---|---|
| A | 3, 3 | 2, 0 |
| B | 4, 1 | 8, – 1 |

(Note that player 1 has strategies A and B, while player 2 has strategies L and R).

12. Discuss the equilibrium of the firm under monopoly in the short as well as long run.

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