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**REC-102/REC-002**

# RESEARCH DEGREE PROGRAMME IN ECONOMICS

## Term-End Examination

00151

**December, 2017**

## REC-102/REC-002 : ECONOMIC THEORY

*Time : 3 hours* *Maximum Marks : 100*

***Note :*** *Answer the questions from each section as directed.*

## SECTION A

*Answer any **two** questions from this section.* *2×20=40*

**1.** Explain the concept of Duality in Optimisation. State and prove the Envelope theorem in the case of constrained as well as unconstrained optimisation. Derive the Slutsky equation from the indirect optimisation problem of the consumer. *4+8+8*

**2.** Prove the Arrow Impossibility theorem, stating the assumptions explicitly.

3. Explain the concept of the Nash equilibrium. How is it related to dominant strategy equilibrium ? In what ways is the concept of Nash equilibrium refined to obtain the relevant equilibrium pertinent to

   (a) Static games of incomplete information ?

   (b) Dynamic games of complete information ?

4. State Walras' Law. Sketch a proof of the existence of equilibrium prices in the case of general equilibrium under pure exchange, making the relevant assumptions.

## SECTION B

*Answer any **five** questions from this section.* 5×12=60

**5.** Discuss the New Keynesian approach to Macroeconomics. In what way is it different from the Standard Keynesian approach ?

**6.** Discuss the decision-making process of an individual in an environment of uncertainty, bringing out the relevant objects of choice and the nature of the optimisation exercise.

**7.** Discuss the Search-Theoretic models of employment determination.

**8.** Describe the basic structure of a Principal-Agent model. Describe how the principal can set up a screening mechanism.

**9.** Describe the Equilibrium Price and Output Determination of a firm operating as a discriminating monopolist.

**10.** Bring out the salient features of the Ramsey Infinite-Horizon model. In what way is the Cass-Koopmans model an extension of the Ramsey model ?

**11.** Explain the following :

(a) Roy's Identity

(b) Shephard's Lemma

**12.** Explain the following concepts :

(a) Shapley Value

(b) The Core