REC-002: Economic Theory

Duration: 3 hours Maximum Marks: 100

NOTE: Answer questions from each section as directed.

Section A

2 x20=40

Answer any two question form this section

1. Explain the concept of duality in optimisation. State and prove the envelope theorem in the case of constrained and unconstrained optimisation. Derive Slutsky equation from the direct optimisation problem of the consumer.

2. Prove the Arrow Impossibility theorem, carefully stating the assumptions.

3. Prove the existence of an equilibrium set of prices in a system of general equilibrium under pure exchange.

4. Discuss the Real Business Cycle Theory. What extension would you need to make to the Ramsey-Cass-Koopmans model to derive the Real Business cycle set-up?

Section B

5 x 12 =60

Answer any five questions from this section

5. State and prove Hotelling's Lemma.

6. Discuss (a) Gibbard-Satterthwaite Theorem
   (b) Sen's theorem on the impossibility of a Paretian Liberal.

7. Explain the structure of a general auction. In auction theory, what is meant by winner's curse?

8. Explain Arrow's Social Welfare Functional. How is it different from the Bergsonian social welfare function?

9. What do you understand by Rational Expectations? Explain with the help of an example. Discuss the New Classical model of general macro-economic equilibrium under rational expectations.

10. Explain with the help of an example, the concept of adverse selection. How is the problem of moral hazard different?

12. Explain the concept of Nash equilibrium and bring out its relationship with dominant strategy equilibrium . How does the concept of Nash equilibrium have to be refined in sequential games of complete information?

13. Discuss the decision making process by an individual in an environment of uncertainty bringing out the relevant objects of choice and the nature of the optimisation exercise.