

Semester	V
Paper Number	HECDS5011T
Paper Title	TOPICS IN MICROECONOMICS
No. of Credits	6
Theory/Composite	Theory
No. of periods assigned	5 Theory + 1 Tutorial
Course description/objective	This course introduces students to the advanced topics of microeconomics and its applications. The emphasis will be on giving conceptual clarity to the student coupled with the use of mathematical tools and reasoning. It covers optimization techniques and introduces the basic concepts of game theory in a way that allows students to use them in solving simple problems. The concept of expected utility is also addressed.
Syllabus	<p>Module 1 (40 marks)</p> <p>1. Optimization in Economic Theory: Value function, Envelope theorem and Duality approach. Applications: a) Indirect utility function and its properties; Roy's identity; Expenditure function and Shepherd's lemma; Slutsky equation b) Cost function and its properties; Shepherd's lemma and conditional factor demand functions c) Profit function and its properties; Hotelling's lemma; Unconditional factor demand functions and supply function</p> <p>Number of Classes per week: 2</p> <hr/> <p>Module 2 (40 marks)</p> <p>2. Game Theory Basics:i) What is a game; games and decisions; different kinds of games; Zero-sum games, min-max theorem, value of a game.(ii)Normal form games The dominant and dominated strategies; dominance solvability; iterated dominance; Nash equilibrium; (iii)Extensive form games with perfect information The game tree; strategies; sub game perfection; backward induction. Applications: a) Cournot Equilibrium b) Stackelberg Equilibrium c) Tragedy of commons</p> <p>3. Expected utility Theorem; measures of risk aversion. Applications- a) investment in risky assetsb) insurance c) the principal agent problem: adverse selection and moral hazard.</p> <p>Number of Classes per week: 3</p> <hr/> <p>Tutorial Classes per week: 1</p>
Reading	1. Martin J. Osborne, <i>An Introduction to Game Theory</i> , Oxford

	University Press, New Delhi, 2004. 2. R. Gibbons. <i>Game Theory for Applied Economists</i> , Princeton University Press, 1992 3. A. K. Dixit. <i>Optimization in Economic Theory</i> , OUP. 4. P. K. Dutta. <i>Strategies and Games</i> , The MIT Press. 5. H. R. Varian. <i>Microeconomic Analysis</i> , W. W. Norton & Company, NY, London, (3 rd Edition). 6. D. Fudenberg and J. Tirole, <i>Game Theory</i> , MIT Press (1 October 1991).			
Evaluation	Continuous Internal Assessment: 20 marks End- Semester Theory Examination: 80 marks			
Paper Structure for End Sem Theory	Module	No. of Questions to be Answered	No. of Alternatives	Marks
	Module 1	2	3	5 x 2 = 10
		2	3	15 x 2 = 30
	Module 2	2	3	5 x 2 = 10
		2	3	15 x 2 = 30
	Total Marks			80