



# CENTRAL UNIVERSITY OF PUNJAB

(Established vide an Act no. 25 (2009) of Parliament)  
City Campus, Mansa Road, Bathinda-151001

## Centre for Economic Studies

Date: 14/09/2016

### SYLLABUS FOR PH.D. ENTRANCE TEST-2016

**1. Microeconomics:** Consumer Behaviour; Production and Costs; Markets ó Perfect Competition, Monopoly, Monopolistic Competition, Oligopoly; Theory of Distribution/ Theory of Factor Markets; and Welfare Economics.

**2. Macroeconomics:** National Income Accounting Methods; Classical Model, Keynesian Model, IS-LM Model, Fiscal and Monetary Policies; Solow and Endogenous Growth Models; Inflation, Index Numbers; Exchange Rate Systems; Balance of Payments Account; Keynesian Multipliers in an Open Economy; Structural Reforms; and Indian Money Market and RBI's Monetary Policy.

**3. Mathematics, Statistics & Basic Econometrics:** Matrix Algebra: Vectors and matrices, matrix operations, determinants; Calculus: Functions, limits, continuity, differentiation of functions of one or more variables. Unconstrained optimization, definite and indefinite integrals, integration by parts and integration by substitution; Constrained and Unconstrained Optimization: First and Second order conditions. Statistics: Elementary probability theory, conditional probability, Bayes's theorem, probability distributions ó Binomial, Poisson, Uniform and Normal, measures of central tendency, skewness, kurtosis, dispersion, correlation and regression; Econometrics: Assumptions of the Classical Linear Regression Model (CLRM) and properties of the estimators, OLS, Gauss Markov theorem, Violations of CLRM assumptions (detection & remedies).

#### **Suggested Readings:**

- Hal R. Varian. *Microeconomic Analysis*. 3<sup>rd</sup> ed. Tata McGraw-Hill Education Private Limited, 2005.
- Anna Koutsoyiannis. *Modern Microeconomics*. 2<sup>nd</sup> ed. Macmillan India Limited
- Rudiger Dornbusch & Stanley Fischer. *Macroeconomics*. 6<sup>th</sup> ed. Tata McGraw Hill Education Private Limited, 2005.
- William H. Branson. *Macroeconomic Theory & Policy*. 3<sup>rd</sup> ed. East-West Press, 2005.
- Alpha C. Chiang & Kevin Wainwright. *Fundamental Methods of Mathematical Economics*. 4<sup>th</sup> ed. McGraw Hill Education, 2013.
- Irwin Miller & Marylees Miller. *John E. Freund's Mathematical Statistics with Applications*. 8<sup>th</sup> ed. Pearson Education, 2014.
- Jeffrey M. Wooldridge. *Introductory Econometrics: A Modern Approach*. 4<sup>th</sup> ed. Cengage Learning India Private Ltd., 2012.