ICCE
INSTITUTE OF CERTIFIED CHARTERED ECONOMISTS

E1

# INVESTMENT I

LEVEL I

SYLLABUS & EXAMS GUIDE

# LEVEL I

# E1 – INVESTMENT I

SYLLABUS & EXAMS GUIDE

# OVERVIEW

This course covers theoretical and practical applications of investments. Within this context, learners will be able to grasp an understanding of the investment industry and its vital role in the world.

This course further allows learners to review several approaches to the use and valuation of stocks, derivatives securities and bonds. learners are expected to be directed through a broad and critical evaluation of the various investment strategies and management techniques to maximize returns on portfolios, respective to the different economic environment.

This course further elaborates on analysis and evaluation of equity securities, influence of business cycle, trading strategies, mutual funds, risks and returns of investments.

By the end of this course, learners will be able to understand the theoretical foundations of investment decisions and portfolio theory, be able to form market expectations and build strategic asset allocation, select optimal investment strategy and last, understand the concept and importance of behavioural finance in the investment world.

# LEARNING OBJECTIVES

On completion of this course, learners should be able to develop a range of skills which enables them to understand investment concepts and make appropriate use of those concepts to analyse specific questions.

- Demonstrate an in depth understanding of the course contents and requirements, including the investment process, portfolio management, stocks and securities and equities through readings and exercises
- Demonstrate an in-depth understanding of the basics of risk and return, such as return measurement, risk partitioning into systematic and unsystematic components, historical perspective on risk and return of major asset categories.
- Demonstrate familiarity with bond pricing, risk analysis and management strategies.
- Form market expectations and build strategic asset allocation
- Understand the concept behind optimal investment strategy and efficient markets
- Demonstrate an in-depth understanding of technical analysis attempts to tap into investor psychology and be able to differentiate between traditional finance and behavioural finance.

- Develop an understanding of the theoretical constructs of investments and portfolio analysis
- Develop practical applications of investments and portfolio analysis
- Develop the students' ability to research investment vehicles and the management of portfolios
- Involve themselves in the practice of investments and portfolio analysis

# RECOMMENDED TEXTS

- **Investments – 10th edition,** by Bodie, Kane and Marcus published by McGraw Hill Education
- **Investments – 5th edition,** by Bodie, Kane and Marcus published by McGraw Hill Education
- **Essentials of Investments – 7th edition,** by Bodie, Kane and Marcus published by McGraw-Hill Irwin

# READING TOPICS

## The Investment Environment

- Real Assets versus Financial Assets
- Financial Assets
- Financial Markets and the Economy
- The Investment Process
- Markets Are Competitive
- The Players
- The Financial Crisis of 2008
- Outline of the Text

## Asset Classes and Financial Instruments

- The Money Market
- The Bond Market
- Equity Securities
- Stock and Bond Market Indexes
- Derivative Markets
- End of chapter materials

## How Securities Are Traded

- How Firms Issue Securities
- How Securities Are Traded
- The Rise of Electronic Trading
- U.S. Markets
- New Trading Strategies
- Globalization of Stock Markets
- Trading Costs
- Buying on Margin

## Mutual Funds and Other Investment Companies

- Investment Companies
- Types of Investment Companies
- Mutual Funds
- Costs of Investing in Mutual Funds
- Taxation of Mutual Fund Income
- Exchange-Traded Funds
- Mutual Fund Investment Performance: A First Look
- Information on Mutual Funds

## Risk, Return, and the Historical Record

- Determinants of the Level of Interest Rates
- Comparing Rates of Return for Different Holding Periods
- Bills and Inflation, 1926–2012
- Risk and Risk Premiums
- Time Series Analysis of Past Rates of Return
- The Normal Distribution
- Deviations from Normality and Risk Measures
- Historic Returns on Risky Portfolios
- Long-Term Investments

## Capital Allocation to Risky Assets

- Risk and Risk Aversion
- Capital Allocation across Risky and Risk-Free Portfolios
- The Risk-Free Asset
- Portfolios of One Risky Asset and a Risk-Free Asset
- Risk Tolerance and Asset Allocation
- Passive Strategies: The Capital Market Line
- End of Chapter Material

## Optimal Risky Portfolios

- Diversification and Portfolio Risk
- Portfolios of Two Risky Assets
- Asset Allocation with Stocks, Bonds, and Bills
- The Markowitz Portfolio Optimization Model
- Risk Pooling, Risk Sharing, and the Risk of Long- Term Investments

## Index Models

- A Single-Factor Security Market
- The Single-Index Model
- Estimating the Single-Index Model
- Portfolio Construction and the Single-Index Model
- Practical Aspects of Portfolio Management with the Index Model

## The Capital Asset Pricing Model

- The Capital Asset Pricing Model
- Assumptions and Extensions of the CAPM
- The CAPM and the Academic World\
- The CAPM and the Investment Industry

## Arbitrage Pricing Theory and Multifactor Models of Risk and Return

- Multifactor Models: An Overview
- Arbitrage Pricing Theory
- The APT, the CAPM, and the Index Model
- A Multifactor APT

## The Efficient Market Hypothesis

- Random Walks and the Efficient Market Hypothesis
- Implications of the EMH
- Event Studies
- Are Markets Efficient
- Mutual Fund and Analyst Performance

## Behavioral Finance and Technical Analysis

- The Behavioral Critique
- Technical Analysis and Behavioral Finance

## Empirical Evidence on Security Returns

- The Index Model and the Single-Factor APT
- Tests of the Multifactor CAPM and APT
- Fama-French-Type Factor Models
- Liquidity and Asset Pricing
- Consumption-Based Asset Pricing and the Equity Premium Puzzle

# SAMPLE QUESTIONS

1. Which of the following is ***not*** a money market instrument?
   A. Treasury bill
   B. commercial paper
   C. preferred stock
   D. bankers' acceptance

2. The most marketable money market security is ________.
   A. Treasury bills
   B. bankers' acceptances
   C. certificates of deposit
   D. common stock

3. Which one of the following is a true statement?
   A. Dividends on preferred stocks are tax-deductible to individual investors but not to corporate investors.
   B. Common dividends cannot be paid if preferred dividends are in arrears on cumulative preferred stock.
   C. Preferred stockholders have voting power.
   D. Investors can sue managers for nonpayment of preferred dividends.

4. The offer price of an open-end fund is $18 and the fund is sold with a front-end load of 5%. What is the fund's NAV?
   A. $18.74
   B. $17.10
   C. $15.40
   D. $16.57

5. Which of the following mortgage scenarios will benefit the homeowner the most?
   A. adjustable rate mortgage when interest rate increases.
   B. fixed rate mortgage when interest rates falls.
   C. fixed rate mortgage when interest rate rises.
   D. None of these options, as the banker's interest will always be protected.

6. A mutual fund has total assets outstanding of $69 million. During the year the fund bought and sold assets equal to $17.25 million. This fund's turnover rate was ________.
   A. 25%

B. 28.5%
C. 18.63%
D. 33.4%

7. The brokers' call rate represents
   A. the rate the broker charges an investor on a margin account.
   B. the rate the broker pays its bank on borrowed funds.
   C. the return earned by the broker on a margin account.
   D. the return earned by the investor on a margin account.

8. Advantages of investment companies to investors include all but which one of the following?
   A. record keeping and administration
   B. low-cost diversification
   C. professional management
   D. guaranteed rates of return

9. Mutual funds provide the following for their shareholders.
   A. diversification
   B. professional management
   C. record keeping and administration
   D. all of these options

10. An open-end fund has a NAV of $16.50 per share. The fund charges a 6% load. What is the offering price?
    A. $14.57
    B. $15.95
    C. $17.55
    D. $16.49

11. Your timing was good last year. You invested more in your portfolio right before prices went up, and you sold right before prices went down. In calculating historical performance measures, which one of the following will be the largest?
    A. dollar-weighted return
    B. geometric average return
    C. arithmetic average return
    D. mean holding-period return

12. Rank the following fund categories from most risky to least risky:
I. Equity growth fund
II. Balanced fund
III. Sector fund
IV. Money market fund
    A. IV, I, III, II
    B. III, II, IV, I
    C. I, II, III, IV
    D. III, I, II, IV

13. Advantages of ETFs over mutual funds include all but which one of the following?
    A. ETFs trade continuously, so investors can trade throughout the day.
    B. ETFs can be sold short or purchased on margin, unlike fund shares.
    C. ETF providers do not have to sell holdings to fund redemptions.
    D. ETF values can diverge from NAV.

14. Harold has just taken his company public and owns a large quantity of restricted stock. For purposes of diversification, what fund might he help create in order to diversify his holdings?
    A. commingled funds
    B. hedge funds
    C. ETF
    D. REITs

15. You invest in a mutual fund that charges a 3% front-end load, 1% total annual fees, and a 0% back-end load on Class A shares. The same fund charges a 0% front-end load, 1% total annual fees, and a 2% back-end load on Class B shares. What are the total fees in year 1 on a Class A investment of $20,000 with no growth in value?
    A. $658
    B. $794
    C. $885

D. \$902

16. You put up \$50 at the beginning of the year for an investment. The value of the investment grows 4% and you earn a dividend of \$3.50. Your HPR was ________.
    A. 4%
    B. 3.5%
    C. 7%
    D. 11%

17. Which one of the following measures time-weighted returns and allows for compounding?
    A. geometric average return
    B. arithmetic average return
    C. dollar-weighted return
    D. historical average return

18. You hold 5,000 shares of the 1 million outstanding shares of Wealthy Wranglers common stock. You've just learned that the company plans to issue more shares, so that 2 million shares will be outstanding. This is called ________.
    A. an advanced equity offering
    B. a weathered equity offering
    C. a seasoned equity offering
    D. a veteran equity offering

19. Active trading in markets and competition among securities analysts helps ensure that:
    I. Security prices approach informational efficiency.
    II. Riskier securities are priced to offer higher potential returns.
    III. Investors are unlikely to be able to consistently find under- or overvalued securities.
    A. I only
    B. I and II only
    C. II and III only
    D. I, II, and III

20. Which one of the following best describes the purpose of derivatives markets?

A. A) Transferring risk from one party to another.
B. B) Investing for a short time period to earn a small rate of return.
C. C) Investing for retirement.
D. D) Earning interest income.

# ANSWERS

| | |
|---|---|
| 1. C | 11. A |
| 2. A | 12. D |
| 3. B | 13. D |
| 4. B | 14. A |
| 5. C | 15. B |
| 6. A | 16. D |
| 7. B | 17. A |
| 8. D | 18. C |
| 9. D | 19. D |
| 10. C | 20. A |

ICCE
INSTITUTE OF CERTIFIED CHARTERED ECONOMISTS

E2

# MICROECONOMICS I

LEVEL I

SYLLABUS & EXAMS GUIDE

# LEVEL I

# E2 - MICROECONOMICS I

SYLLABUS & EXAMS GUIDE

# OVERVIEW

E2 - Microeconomic I is the introductory course which teaches the fundamentals of microeconomics. Being the first subject of the training cycle in Economic theory, its importance as well as complexity arises as learners become familiar with current economic models for the first time.

This paper covers the basic economic models of consumer theory, production theory and partial equilibrium, allowing students to formalize economic phenomena as well as understand their workings.

Starting with an introduction to Economics and then, demand and supply and the basic forces which determine an equilibrium in a market economy, this course further entails the framework for learning labour and the financial markets.

It next introduces a framework for learning about consumer behaviour and analysing consumer decisions. This course further explores a wide range of economic phenomena including firms' production, cost structure and market power. The final section of this course discusses topics such as firm's investments, business strategies, the role of antitrust law and regulations.

By the end of this course, learners will be able to understand introductory microeconomic theory, solve microeconomic problems and use these techniques to deal with operations of the real economy as we continue to offer this sense of relevance of theory to reality.

# LEARNING OBJECTIVES

On completion of this course, learners should be able to develop a range of skills which enables them to understand economic concepts and make appropriate use of those concepts to analyse specific questions.

- Understand demand and supply analysis and use it to determine equilibrium price and output
- Understand the dynamics of market interactions and be able to perform graphical and quantitative treatment of the theories
- Be able to differentiate micro units of the economy to the economy at large
- Explain concepts of scarcity, opportunity costs, production possibilities, and the modelling of economic behaviour
- Understand the concept of utility maximization and its essence to consumer behaviour
- Understand the concept of profit maximization and its importance to firm behaviour
- Understand the meaning of price and income elasticity of demand
- Understand and analyse the different types of market structures
- Understand the application of economic principles to a variety of policy questions
- Demonstrate knowledge of real world applications to microeconomic principles

- Demonstrate a theoretical and practical understanding of microeconomic principles for further study in economics and related areas.
- Demonstrate an interest in reading economic and business related materials in the media.

# RECOMMENDED TEXTS

- **Microeconomics, 2nd edition**, by Paul R, Krugman, Robin Wells published by Worth Publishers
- **Microeconomics,** by B. Douglas Bernheim and Michael D. Whinston, Published by McGraw-Hill/Irwin

# READING TOPICS

## Introduction to economics

- What Is Economics, and Why Is It Important?
- Microeconomics and Macroeconomics
- The choice. The formal problem of maximization of preferences and derivation of the demand function.
- Understanding the underpinnings of Economic Systems

## Elements of the problem: - Scarcity

- Limits of consumer choice: the budget constraint. Reasons for choice: preferences. Representation of preferences: Utility.
- Individual choices based on their budget constraint
- The Production Possibilities Frontier (PPF) and Social Choices
- Welfare Economics: Consumer and Producer Surplus

## Demand and Supply

- Demand, Supply, and Equilibrium in Markets for Goods and Services
- The Demand Curve
- The Supply Curve
- Shifts in Demand and Supply for Goods and Services
- Changes in Equilibrium Price and Quantity: The Four-Step Process
- Price Ceilings and Price Floors
- Demand, Supply, and Market Efficiency

## Labor and Financial Markets

- Economics of the Labor Market
- Demand and Supply at Work in Labor Markets
- Demand and Supply in Financial Markets
- The Market System as an Efficient Mechanism for Information

## Elasticity

- Defining and Measuring Elasticity
- Price Elasticity of Demand and Price Elasticity of Supply
- Interpreting the Price Elasticity of Demand
- What Factors Determine the Price Elasticity of Demand?
- Interpreting the Price Elasticity of Supply
- Polar Cases of Elasticity and Constant Elasticity
- Elasticity and Pricing

## Consumer Choices

- Consumption Choices
- How Changes in Income and Prices Affect Consumption Choices
- Behavioral Economics: An Alternative Framework for Consumer Choice

## Production, Costs, and Industry Structure

- Explicit and Implicit Costs, and Accounting and Economic Profit
- Production in the Short Run
- Costs in the Short Run
- Production in the Long Run
- Costs in the Long Run

## Perfect Competition

- Perfect Competition and Why It Matters
- How Perfectly Competitive Firms Make Output Decisions
- Entry and Exit Decisions in the Long Run
- Efficiency in Perfectly Competitive Markets

## Monopoly, Monopolistic Competition & Oligopoly

- How Monopolies Form: Barriers to Entry
- How a Profit-Maximizing Monopoly Chooses Output and Price
- Monopolistic Competition
- Oligopoly

## Monopoly and Antitrust Policy

- Corporate Mergers
- Regulating Anticompetitive Behaviour
- Regulating Natural Monopolies
- The Great Deregulation Experiment

# SAMPLE QUESTIONS

1. The basic concern of microeconomics is to:
    A. keep business firms from losing money
    B. prove that capitalism is better than socialism
    C. study the choices people make
    D. use unlimited resources to produce goods and services to satisfy limited wants

2. Scarcity in economics means that:
    A. we often do not have sufficient resources to achieve our objectives
    B. the wants of people are limited
    C. there must be poor people in rich countries
    D. shortages exist in nearly all markets

3. A central and fundamental theme in economics is that:
    A. wants are limited
    B. the United States is a rich country, but we are simply not aware of it
    C. people have unlimited wants but limited means to satisfy them
    D. resources are unlimited

4. The problem of determining what goods and services society should produce:
    A. exists because we can produce more than we need or want
    B. exists because there are not enough resources to provide all of the goods and services that people want
    C. would not exist if all goods and services were scarce
    D. would not exist if government owned all of the resources

5. Margo spends $30,000 on one year's college tuition. The opportunity cost of spending one year in college for Margo is:
    A. $30,000
    B. whatever she would have purchased with the $30,000 instead
    C. whatever she would have earned had she not been in college
    D. whatever she would have purchased with the $30,000 plus whatever she would have earned had she not been in college

6. Economists define an efficient use of resources as a situation in which:

A. one person can be made better off but only by making another person worse off
B. all persons can be made better off without making anyone worse off
C. all persons receive an equal share of the resources
D. all persons are made worse off when one person is made better off

7. The incentives built into the market economy ensure that resources are put to good use and that opportunities to make people better off are not wasted. This means that:
   A. people usually are not selfish enough to exploit opportunities to make themselves better off
   B. markets move toward equilibrium
   C. resources should be used as efficiently as possible to achieve society's goals
   D. markets usually lead to efficiency

8. Suppose small business owners decide to spend less. How will this affect an economy?
   A. It will have no impact since this group makes up a small portion of any economy
   B. It will decrease the level of income of other people since one person's spending is someone else's income
   C. It will cause prices for many goods to increase
   D. It will increase the level of income in the economy since other groups will spend more

9. The provision of disabled-parking passes to those with disabilities often requires that more than enough spaces be available for those with disabilities. As a result, many of these spaces are vacant quite often when they could be used by able-bodied individuals. Such a situation illustrates the:
   A. trade-off between efficiency and equity
   B. trade-off between efficiency and specialization
   C. ability of markets to provide efficient and equitable outcomes
   D. power of the market to provide for equilibrium outcomes

10. **(Table: Wages and Hours Willing to Work)** Use Table: Wages and Hours Willing to Work. If it was graphed, the relationship between wage per hour and hours willing to work would be

**Table: Wages and Hours Willing to Work**

| Point | Wage | Hours Worked |
|---|---|---|
| A | 6 | 0 |
| B | 8 | 5 |
| C | 12 | 20 |
| D | 20 | 40 |
| E | 30 | 45 |

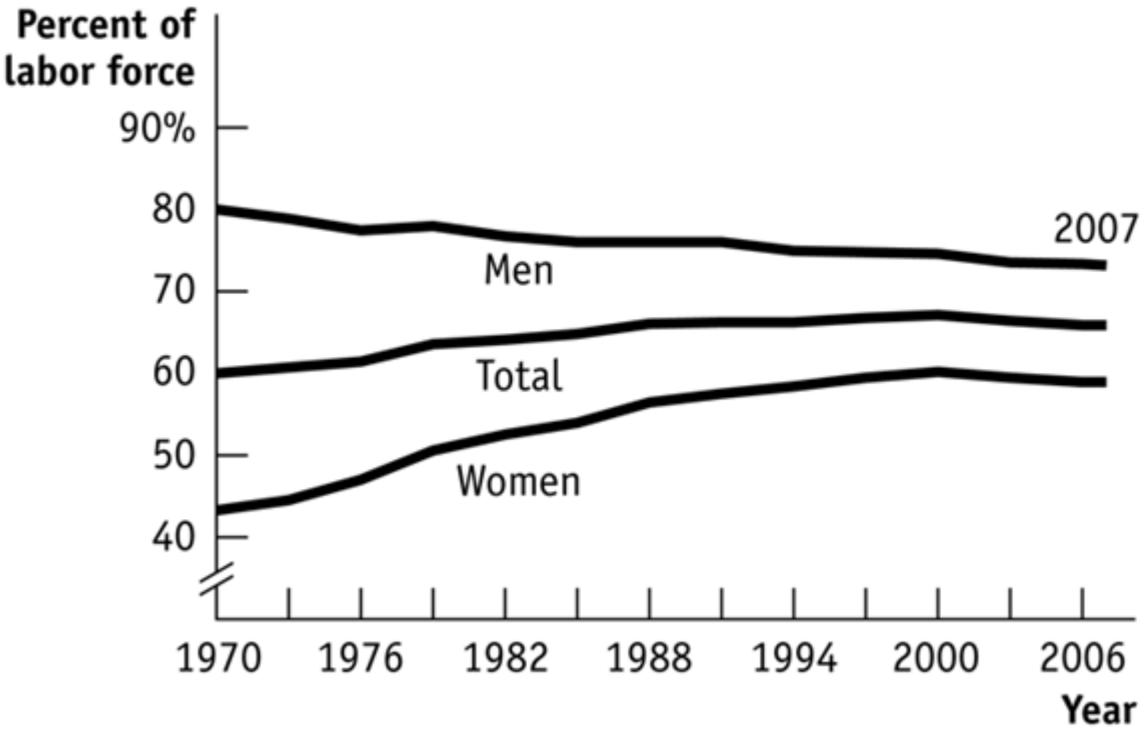
A. linear
B. coordinated
C. nonlinear
D. negatively sloped

**Table: Price, Quantity Demanded, and Quantity Supplied**

| Price | 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|---|
| Quantity demanded | 16 | 8 | 4 | 2 | 1 |
| Quantity supplied | 3 | 5 | 7 | 9 | 11 |

11. **(Table: Price, Quantity Demanded, and Quantity Supplied)** Use Table: Price, Quantity Demanded, and Quantity Supplied. A linear relationship exists between:
    A. price and quantity demanded
    B. price and quantity supplied
    C. price and quantity demanded minus quantity supplied.
    D. quantity demanded and quantity supplied

**Figure: Labor Force Participation Rate**




12. **(Figure: Labor Force Participation Rate)** Use Figure: Labor Force Participation Rate. Using the figure, the labor force participation rate for women was _____ during 1970–1985 and _____ during 1998–2006
    A. increasing; slightly decreasing
    B. increasing; increasing
    C. decreasing; increasing
    D. decreasing; constant

13. The market price of airline flights increased recently. Some economists suggest that the price increased because of an increase in the number of business travelers. They believe that, in the market for flights:
    A. supply increased
    B. supply decreased
    C. demand increased
    D. demand decreased

14. Alice goes to the local supermarket to purchase one package of kale. She often pays $1.50 for a package, but

she finds they are on sale for $1 each. According to the law of demand, one can expect shoppers like Alice to:

A. purchase an alternative good
B. purchase more kale than they normally would
C. decide not to purchase kale
D. buy the same amount of kale as they always do, on average

15. The price elasticity of demand measures the responsiveness of the change in the:
    A. quantity demanded to a change in the price
    B. price to a change in the quantity demanded
    C. slope of the demand curve to a change in the price
    D. slope of the demand curve to a change in the quantity demanded

16. After you graduate from college, you open a business selling computers. Many other businesses in your city sell similar but not identical computers. Based on this information, the price elasticity of demand for the computers that your business sells will be:
    A. 1
    B. 0
    C. highly elastic
    D. highly inelastic

17. The price elasticity of demand for a good such as water is likely to be very low because:
    A. the price is a small percentage of most budgets
    B. water has some good substitutes
    C. water is considered a luxury
    D. the share of income spent on water is large

18. The price elasticity of demand for soft drinks has been estimated to be 0.55. If the government enacts a major increase in the tax on imported sugar (a major ingredient in soft drink manufacturing), how will that affect total expenditures on soft drinks, all other things equal?
    A. Total expenditures will remain unchanged
    B. Total expenditures will fall
    C. Total expenditures will rise
    D. People will buy Pepsi instead of Coke

19. The price elasticity of demand for ground beef has been estimated to be 1.0. If mad cow disease strikes the United

States and a large percentage of the cattle are removed from the market, how will that affect total expenditures on ground beef, all other things equal?

A. Total expenditures will remain unchanged
B. Total expenditures will fall by more than 1%.
C. Demand will fall by 1%, but total expenditures will fall by less than 1%.
D. Total expenditures will rise

20. Which pair of goods is MOST likely to have a cross-price elasticity of demand that is greater than zero?
A. shoes and shoelaces
B. apples and bananas
C. pancakes and bacon
D. gasoline and cars

# ANSWERS

| | |
|---|---|
| 1. C | 11. B |
| 2. A | 12. A |
| 3. C | 13. C |
| 4. B | 14. B |
| 5. D | 15. A |
| 6. A | 16. C |
| 7. D | 17. A |
| 8. B | 18. C |
| 9. A | 19. A |
| 10. C | 20. B |

ICCE
INSTITUTE OF CERTIFIED CHARTERED ECONOMISTS

E3

# MACROECONOMICS I

LEVEL I

SYLLABUS & EXAMS GUIDE

# LEVEL I

# E3 – MACROECONOMICS I

SYLLABUS & EXAMS GUIDE

# OVERVIEW

**Macroeconomics I** is a course that provides learners with a thorough understanding of the principles of economics that apply to an economic system as a whole.

This course provides the fundamental economic ideas and the operation of the economy on a national scale. This course places a particular emphasis on the key concepts used in economic analysis such as marginal analysis, national income and price-level determination.

The course will allow learners to develop their knowledge on production, distribution and consumption of goods and services, the exchange process, the role of the government, economic performance measures, the financial sector, stabilization policies and economic growth.

The last section of this course emphasizes inflation, national income, GDP, and unemployment in economies as well as fiscal and monetary policy.

# LEARNING OBJECTIVES

- Understand and explain the concepts, and theories pertaining to aggregate economic activity
- Understand and explain fiscal and monetary policy decisions and their impact on the economy
- Introduce students to fundamental economic concepts such as scarcity and opportunity costs
- Provide an overview of how the economy works, starting with a model of the circular flow of income and products that contains the four sectors: households, businesses, government, and international. It is important to identify and examine the key measures of economic performance: gross domestic product, unemployment, and inflation
- Introduce the concept and meaning of long-run economic growth and examine how economic growth occurs. Students will understand the role of productivity in raising real output and the standard of living, and the role of investment in human capital formation and physical capital accumulation, research and development, and technical progress in promoting economic growth
- Introduce the concept of how an open economy interacts with the rest of the world both through the goods market and the financial markets, and it is important to understand how a country's transactions with the rest of the world are recorded in the balance of payments accounts
- Explain the utilization of resources within and across countries
- Effectively use macroeconomic models to measure and predict economic performance

- Work effectively to produce graphic products and solve problems

# RECOMMENDED TEXTS

- **Macroeconomics**, **4th Edition,** Paul Krugman, Robin Wells, Published by Worth Publishers, 2015

- **Foundations of Modern Macroeconomics 2nd Edition**, Ben J. Heijdra, Published by Oxford University Press, 2009

- **Advanced Macroeconomics, 4th Edition,** David Romer, Published by McGraw-Hill, 2012

# READING TOPICS

## First Principles

- What is the difference between macro and micro economics?
- The central choices of economic decision making: what, how and for whom to produce? The participants in the market economy
- Key concepts used in economic analysis:
  - Scarcity, choice, opportunity cost
  - Marginal analysis and choice
  - Ceteris Paribus or ‘everything else held constant.’
  - Positive and normative economics and using theories and models to measure economic events
  - Criteria for evaluation of economic policy and policy proposals
- Economic systems:
  - The market economy, mixed economies & command economies
  - Interpreting relationships between economic variables using graphs

## Economic Models: Trade-offs and Trade

- Defining the resources used in the production of goods and services
- The production possibility frontier applied to the concept of opportunity cost/tradeoffs and to marginal costs and benefits;
  - increasing marginal opportunity costs.
- Productive efficiency; inefficient choices and unattainable choices
- Using the frontier to illustrate economic growth, attainment of new resources, technological change, and more efficient production.
- Comparative advantage and the gains from trade
- The circular flow of income, product and services in the economy

## Supply and Demand

- Product and Resource Markets:
  - Role of households (consumers) and firms What is a market?
  - Consumer demand and the “Law of Demand”
- Law of Demand:
  - The inverse relationship between price and quantity demanded
  - Change in quantity demanded vs. shift in demand
  - the concept of “ceteris paribus”

- Causes of a shift in demand:
  - Changes in income, expectations, number of consumers, tastes and preferences; Normal and inferior goods
- Law of Supply:
  - The positive relationship between price and quantity supplied. Change in quantity supplied vs. a shift in supply
- Causes of a shift in Supply:
  - Changes in cost of resources, prices of related goods, technology, expectations of producers, number of producers
- Applications (examples) of Demand and Supply graphs;
  - Market demand, market supply and market equilibrium

## Macroeconomics: The Big Picture

- The Business Cycle in Market Economies:
  - short-term vs. long-term growth trend Expansion, peak, decline, trough
- Emergence of modern-day macroeconomic policy to moderate effects of recessions:
  - Keynesian policy/government spending and taxation to stimulate aggregate demand
- Components of aggregate demand and aggregate supply Shifts in the AD and AS curves:
  - What do they show?
- The roots of macroeconomics:
  - John Maynard Keynes and the Great Depression
- Classical vs. Keynesian economics:
  - The short-run vs. long run model of macroeconomic equilibrium
  - The Keynesian short-run model and the classical economists' long-run model
- Keynes' challenge to Say's Law:
  - he Demand Driven Economy Wage and Price inflexibility
  - The role of Government
- Concerns of Inflation:
  - Boom times and deflation (severe economic downturns):
  - The impact of recession on trade imbalances
  - Discuss the Great Depression (1930 – 1939) vs recent recession

## Price Controls & Quotas: Meddling with Markets

- Why Governments Control Prices
- Price Ceilings
  - Modeling a Price Ceiling
  - How a Price Ceiling Causes Inefficiency
  - So Why Are There Price Ceilings?

- Price Floors
  - How a Price Floor Causes Inefficiency
  - So Why Are There Price Floors?
- Controlling Quantities
  - The Anatomy of Quantity Controls 118
  - The Costs of Quantity Controls

## Tracking the Macroeconomy

- Gross Domestic Product:
  - Measuring the economy's output of goods and services;
- Government Sector:
  - Federal state and local government in the economy
- The financial sector:
  - The international sector
- The three markets:
  - Goods and service, labor market, money market Nominal and real GDP;
  - The difference between GNP and GDP
- Expenditure Measure of GDP:
  - Consumption by households, businesses, government and the rest of the world (Net exports)
- Income Measure of GDP:
  - Income from labor, rent, interest, proprietors' income, profit
  - Value added approach vs. measure of final goods and services produced
- What GDP Does Not Include:
  - Alternative measures of GDP

## Unemployment and Inflation

- How is the labor force defined? Who is in the labor force?
- Measuring employment and unemployment.
- Who is not counted in the Government's official count of the unemployed?
- Types of unemployment; cyclical unemployment and the business cycle.
- The difference between the 'household survey' (the civilian labor force) and the 'establishment survey' (number of payroll jobs added by employers).
- The labor force participation rate
- Unemployment and the changes in the global economy

## Measuring inflation

- What does it say about the state of the economy?

- Real vs. nominal income and earnings
- Real and Nominal rates of interest
- Costs and causes of inflation

## Fiscal policy

- Defining fiscal policy: taxation and spending to achieve macroeconomic goals
- Fiscal policy and the Recession of 2007 – 2009
- The multiplier effect
- Government spending and taxation
- Automatic stabilizers:
  - The income tax, unemployment insurance
  - Discretionary tax and spending policy
- Progressive, proportional and regressive taxes and their impacts
- Fiscal Policy Lags
- The circular flow diagram with government spending and taxation
- Budget deficits and surpluses:
  - Government debt and deficits
  - Are they the same thing? Discuss

## Monetary Policy

- The structure of the Federal Reserve System
- How the Fed regulates the money supply:
  - Reserve requirements, the discount rate, open market operations;
  - The goals of monetary policy
- The federal funds rate:
  - Fed funds market
- Banking legislation and deregulation since the 1980's
- Growth of the "Shadow Banking System" and the financial crisis of 2007-2009
- The role of credit, debit cards and electronic money in the money supply
- Role of financial intermediaries – modern depository institutions
- Savings and Loan crisis of the late 1980's
- The financial crisis of 2008 and the Federal Reserve's policy response
- Fed Policies during the 2007 – 2009 Recession
- How the banking system creates and expands money in circulation
- The difference between treasury bonds and bonds issued by the Fed

# SAMPLE QUESTIONS

1. The ability of macroeconomists to predict the future course of economic events:
   A. is no better than a meteorologist's ability to predict the next month's weather
   B. is much better than a meteorologist's ability to predict the next month's weather
   C. has gotten worse over time
   D. is less precise than it was in the 1920s

2. All of the following are types of macroeconomics data except the:
   A. price of a computer
   B. growth rate of real GDP
   C. inflation rate
   D. unemployment rate

3. The total income of everyone in the economy adjusted for the level of base year prices is called:
   A. a recession
   B. an inflation
   C. real GDP
   D. a business fluctuation

4. A measure of how fast the general level of prices is rising is called the:
   A. growth rate of real GDP
   B. inflation rate
   C. unemployment rate
   D. market-clearing rate

5. In an economic model:
   A. exogenous variables and endogenous variables are both determined outside the model
   B. endogenous variables and exogenous variables are both determined within the model.
   C. endogenous variables affect exogenous variables
   D. exogenous variables affect endogenous variables

6. Variables that a model tries to explain are called:
   A. endogenous
   B. exogenous
   C. market clearing
   D. fixed

7. Macroeconomic models are used to explain how ______ variables influence ______ variables.

A. endogenous; exogenous
B. exogenous; endogenous
C. microeconomic; macroeconomic
D. macroeconomic; microeconomic

8. Important characteristics of macroeconomic models include all of the following except
    A. simplifying assumptions
    B. functional relationships based on randomized control trials
    C. endogenous and exogenous variables
    D. implicit or explicit consistency with microeconomic foundations

9. In a simple model of the supply and demand for pizza, the endogenous variables are:
    A. the price of pizza and the price of cheese
    B. aggregate income and the quantity of pizza sold
    C. aggregate income and the price of cheese
    D. the price of pizza and the quantity of pizza sold

10. The market value of all final goods and services produced within an economy in a given period of time is called:
    A. industrial production
    B. gross domestic product
    C. the GDP deflator
    D. general durable purchases

11. Assume that a bakery hires more workers and pays them wages and that the workers produce more bread. GDP increases in all of the following cases except when the bread
    A. is sold to households
    B. is stored away for later sale
    C. grows stale and is thrown away
    D. is sold to other firms

12. Assume that a rancher sells McDonald's a quarter-pound of meat for $1 and that McDonald's sells you a hamburger made from that meat for $2. In this case, GDP increases by:
    A. $0.50
    B. $1
    C. $2
    D. $3

13. Assume that a tire company sells four tires to an automobile company for $400, another company sells a compact disc player for $500, and the automobile company puts all of these items in or on a car that it sells for $20,000. In this case, the amount from these transactions that should be counted in GDP is:
    A. $20,000
    B. $20,000 less the automobile company's profit on the car
    C. $20,900
    D. $20,900 less the profits of all three companies on the items that they sold

14. In computing GDP
    A. expenditures on used goods are included
    B. production added to inventories is excluded
    C. the amount of production in the underground economy is imputed
    D. the value of intermediate goods is included in the market price of the final goods.

15. If the GDP deflator in 2009 equals 1.25 and nominal GDP in 2009 equals $15 trillion, what is the value of real GDP in 2009?
    A. $12 trillion
    B. $12.5 trillion
    C. $15 trillion
    D. $18.75 trillion

16. The GDP deflator is equal to
    A. the ratio of nominal GDP to real GDP
    B. the ratio of real GDP to nominal GDP
    C. real GDP minus national GDP
    D. nominal GDP minus real GDP

17. If an increase of an equal percentage in all factors of production increases output of the same percentage, then a production function has the property called:
    A. constant marginal product of labor.
    B. increasing marginal product of labor
    C. constant returns to scale
    D. increasing returns to scale

18. Assuming that all firms maximize profits, economic profit is zero if:

A. all factors are paid their marginal products and the law of diminishing returns is valid
B. all factors are paid their marginal products, and there are constant returns to scale
C. no firms are competitive
D. all factors are paid their marginal products

19. According to Euler's theorem, if competitive firms pay each factor its marginal product and the production function has constant returns to scale, the sum of all factor payments will equal
    A. total investment
    B. total saving.
    C. total profits
    D. total output

20. What determines the ratio of the wage to rental rate of capital in a competitive, profit-maximizing economy with constant returns to scale?
    A. the quantity of economic profits earned by firm owners
    B. the interest rate
    C. the ratio of public saving to private saving
    D. the marginal productivity of labor relative to the marginal productivity of capital

# ANSWERS

1. A
2. A
3. B
4. B
5. D
6. A
7. B
8. B
9. D
10. B
11. C
12. C
13. A
14. D
15. A
16. A
17. C
18. B
19. D
20. D

ICCE
INSTITUTE OF CERTIFIED CHARTERED ECONOMISTS

E4

# FINANCIAL MARKETS & INSTITUTIONS

LEVEL I

SYLLABUS & EXAMS GUIDE

# LEVEL I

# E4 – FINANCIAL MARKETS & INSTITUTIONS

SYLLABUS & EXAMS GUIDE

# OVERVIEW

Financial markets or markets for financial assets, play an important role in the efficient functioning of a market economy. Financial Institutions are any establishments that make these markets function efficiently.

It is important to understand the fundamental principles that govern financial markets and Institutions. We attempt to understand the workings of Banking Industry, the Federal Reserve and the behaviours of financial intermediaries.

Understanding the economic foundations of these intermediaries, in addition to the institutional instruments, and developing your analytical and research skills, will prepare you not only for today's job market, but will also help to increase your educational flexibility in adapting to future changes.

Due to the economic globalization and the modernization of financial assets' the global understanding of financial markets' institutional logics and environment has become increasingly complex.

Learners will be introduced to the institutional environment in which financial transactions take place. A strong emphasis is put on the role of central banks, on regulations and innovations before and after the crisis. The differences between capital and money markets in bank or market controlled systems are presented, as well as, discussions about the operations of financial intermediaries

With a practical framework, based on examples from

European financial institutions and stock markets, learners will develop managerial capacity in order to apply the decisions and policies that a Chief Financial Officer would.

This paper is intended to help learners understand the role of financial institutions and
markets play in the business environment that you will face in the future. It also to help learners to develop a series of applications of principles from finance and economics that explore the connection between financial markets, financial institutions and the economy.

On the financial markets side, we learners will get to know the term structure of interest rates, stocks, principals of derivatives, and currencies. On the institutions side, we learners will get insight into commercial banks, investment banks, insurance companies, mutual funds, the Federal Reserve Systems and their role of in the economy.

# LEARNING OBJECTIVES

*After completing the module, learners should be able to:*

- Apply concepts relevant to financial markets and financial institutions, such as the flow of funds, levels of interest rates and interest rate differentials, to current events or topical issues.
- Determine and analyze the appropriate measures of risk and return for various financial instruments. Understand the mechanics and regulation of financial securities exchanges and determine how the value of stocks, bonds, and securities are calculated.
- Identify and evaluate the role symmetric versus asymmetric information plays in the structure and operation of the financial system information.
- Evaluate empirical evidence of market performance, and contrast it with theories of market performance.
- Research and analyze specific problems or issues related to financial markets and institutions.
- Explore the international integration of international financial markets and analyze the implications for financial managers.
- Identify the functions of financial markets and institutions and examine their impact on the level of interest rates and interest differentials.
- Use information technology as a tool to do essential business tasks including performing electronic research, and creating documents, presentations and spreadsheets.

- Critically evaluate the historical development of regulations and supervision of financial markets for both bank based and market based systems
- Assess information related to financial issues in a global context with an emphasizes on the advantages and complexity of being international
- In the context of financial markets integrate ethical and sustainable reasoning in analyses, evaluations and decisions

## RECOMMENDED TEXTS

- **Financial Markets and Institutions, 5th edition**, Anthony Saunders, Marcia Millon Cornett, Published by McGraw-Hill/Irwin, 2012
- **Financial Markets and Institutions, 9th edition**, Jeff Madura, Published by CENGAGE, 2010

# READING TOPICS

## Introduction to Financial Markets & Institutions

- Why Study Financial Markets and Institutions
- Overview of Financial Markets
- Overview of Financial Institutions
- Globalization of Financial Markets and Institutions

## Determinants of Interest Rates

- Interest Rate Fundamentals
- Loanable Funds Theory
- Movement of Interest Rates Over Time
- Determinants of Interest Rates for Individual Securities
- Term Structure of Interest Rates
- Forecasting Interest Rates
- Time Value of Money and Interest Rates

## Interest Rates and Security Valuation

- Interest Rates as a Determinant of Financial Security Values
- Various Interest Rate Measures
- Bond Valuation
- Equity Valuation
- Impact of Interest Rate Changes on Security Values
- Impact of Maturity on Security Values
- Impact of Coupon Rates on Security Values

## The Federal Reserve System, Monetary Policy, & Interest Rates

- Major Duties and Responsibilities of the Federal Reserve System
- Structure of the Federal Reserve System
- Monetary Policy Tools
- The Federal Reserve, the Money Supply, and Interest Rates
- International Monetary Policies and Strategies

## Money Markets

- Definition of Money Markets
- Money Markets
- Yields on Money Market Securities
- Money Market Securities
- Money Market Participants
- International Aspects of Money Markets

## Bond Markets

- Definition of Bond Markets
- Bond Market Securities
- Bond Market Participants
- Comparison of Bond Market Securities
- International Aspects of Bond Markets

## Mortgage Markets

- Mortgages and Mortgage-Backed Securities
- Primary Mortgage Market
- Secondary Mortgage Markets
- International Trends in Securitization

## Stock Markets

- The Stock Markets
- Stock Market Securities
- Primary and Secondary Stock Markets
- Stock Market Participants
- Other Issues Pertaining to Stock Markets
- International Aspects of Stock Markets

## Foreign Exchange Markets

- Foreign Exchange Markets and Risk
- Background and History of Foreign Exchange Markets
- Foreign Exchange Rates and Transactions
- Interaction of Interest Rates, Inflation, and Exchange Rates

## Other Lending Institutions: Savings Institutions, Credit Unions, and Finance Companies

- Other Lending Institution
- Savings Institutions

- Credit Unions
- Finance Companies

## Securities Firms and Investment Banks

- Services Offered by Securities Firms versus Investment Banks
- Size, Structure, and Composition of the Industry
- Securities Firm and Investment Bank Activity Areas
- Recent Trends and Balance Sheets

## Mutual Funds and Hedge Funds

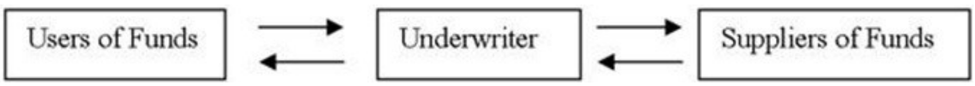
- Mutual Funds and Hedge Funds
- Size, Structure, and Composition of the Mutual Fund Industry
- Mutual Fund Returns and Costs
- Mutual Fund Balance Sheets and Recent Trends
- Hedge Funds

# SAMPLE QUESTIONS

1. IBM creates and sells additional stock to the investment banker Morgan Stanley. Morgan Stanley then resells the issue to the U.S. public through its mutual funds. This transaction is an example of a(n)
   A. primary market transaction.
   B. asset transformation by Morgan Stanley.
   C. money market transaction.
   D. foreign exchange transaction.

2. A corporation seeking to sell new equity securities to the public for the first time in order to raise cash for capital investment would most likely
   A. A) conduct an IPO with the assistance of an investment banker.
   B. B) engage in a secondary market sale of equity.
   C. C) conduct a private placement to a large number of potential buyers.
   D. D) place an ad in the Wall Street Journal soliciting retail suppliers of funds.

3. The diagram below is a diagram of the




   A. secondary markets.
   B. primary markets.
   C. money markets.
   D. derivatives markets.

4. Depository institutions include
   A. banks.
   B. thrifts.
   C. finance companies.
   D. banks and thrifts.

5. Financial intermediaries (FIs) can offer savers a safer, more liquid investment than a capital market security, even though the intermediary invests in risky illiquid instruments because
   A. FIs can diversify away some of their risk.
   B. FIs closely monitor the riskiness of their assets.
   C. the federal government requires them to do so.
   D. FIs can diversify away some of their risk and closely monitor the riskiness of their assets.

6. Money markets trade securities that
   I. mature in one year or less.
   II. have little chance of loss of principal.
   III. must be guaranteed by the federal government.

   A. I only
   B. II only
   C. I and II only
   D. I, II, and III

7. Depository institutions (DIs) play an important role in the transmission of monetary policy from the Federal Reserve to the rest of the economy because
   A. loans to corporations are part of the money supply.
   B. bank and thrift loans are tightly regulated.
   C. DI deposits are a major portion of the money supply.
   D. thrifts provide a large amount of credit to finance residential real estate.

8. Insolvency risk at a financial intermediary (FI) is the risk
   A. that promised cash flows from loans and securities held by FIs may not be paid in full.
   B. incurred by an FI when the maturities of its assets and liabilities do not match.
   C. incurred by an FI when its investments in technology do not result in cost savings or revenue growth.
   D. risk that an FI may not have enough capital to offset a sudden decline in the value of its assets.

9. An investment pays $400 in one year, X amount of dollars in two years, and $500 in three years. The total present value of all the cash flows (including X) is equal to $1,500. If i is 6 percent, ***what is X?***
   A. $702.83
   B. $822.41
   C. $789.70
   D. $749.67

10. You go to the Wall Street Journal and notice that yields on almost all corporate and Treasury bonds have decreased. The yield decreases may be explained by which one of the following?
   A. A decrease in U.S. inflationary expectations
   B. Newly expected decline in the value of the dollar

C. An increase in current and expected future returns of real corporate investments
D. Decreased Japanese purchases of U.S. Treasury bills/bonds

11. According to the liquidity premium theory of interest rates,
    A. long-term spot rates are higher than the average of current and expected future short-term rates.
    B. investors prefer certain maturities and will not normally switch out of those maturities.
    C. investors are indifferent between different maturities if the long-term spot rates are equal to the average of current and expected future short-term rates.
    D. long-term spot rates are totally unrelated to expectations of future short-term rates.

12. The interest rate used to find the present value of a financial security is the
    A. expected rate of return.
    B. required rate of return.
    C. realized rate of return.
    D. realized yield to maturity.

13. A security has an expected return less than its required return. This security is
    A. selling at a premium to par.
    B. selling at a discount to par.
    C. selling for more than its PV.
    D. selling for less than its PV.

14. A bond that you held to maturity had a realized return of 8 percent, but when you bought it, it had an expected return of 6 percent. If no default occurred, which one of the following must be true?
    A. The bond was purchased at a premium to par.
    B. The coupon rate was 8 percent.
    C. The required return was greater than 6 percent.
    D. The coupons were reinvested at a higher rate than expected.

15. A 12-year annual payment corporate bond has a market price of $925. It pays annual interest of $60 and its required rate of return is 7 percent. By how much is the bond mispriced?
    A. $0.00
    B. Overpriced by $7.29
    C. Under-priced by $7.29
    D. Overpriced by $4.43

16. Corporate Bond A returns 5 percent of its cost in PV terms in each of the first five years and 75 percent of its value in the sixth year. Corporate Bond B returns 8 percent of its cost in PV terms in each of the first five years and 60 percent of its cost in the sixth year. If A and B have the same required return, which of the following is/are true?

    I. Bond A has a bigger coupon than Bond B.
    II. Bond A has a longer duration than Bond B.
    III. Bond A is less price-volatile than Bond B.
    IV. Bond B has a higher PV than Bond A.

    A. III only
    B. I, III, and IV only
    C. I, II, and IV only
    D. II and IV only
    E. I, II, III, and IV

17. A 10-year maturity coupon bond has a six-year duration. An equivalent 20-year bond with the same coupon has a duration
    A. equal to 12 years.
    B. less than six years.
    C. less than 12 years.
    D. equal to six years.

18. The rate of return on a repo is
    A. determined by the rate of return on the underlying collateral.
    B. strongly affected by the current Fed funds rate at the time of the repo.
    C. determined by the rate of return on the underlying collateral and determined at the time of the repo.
    D. strongly affected by the current Fed funds rate at the time of the repo and determined at the time of the repo.

19. In a Treasury auction, preferential bidding status is granted to
    A. competitive bidders.
    B. non-competitive bidders.
    C. short sale committed bidders.
    D. commercial bank bidders.

20. Eurodollar CDs would include
    A. CDs denominated in Euros.
    B. dollar investments by European entities in the United States.

C. dollars deposited in Europe.
D. dollars deposited in Caribbean banks and dollars deposited in Europe.

# ANSWERS

1. A
2. A
3. B
4. D
5. D
6. C
7. C
8. D
9. C
10. A
11. A
12. B
13. C
14. D
15. D
16. D
17. C
18. D
19. B
20. D

# EXAMINATION
GUIDE

# EXAMS GUIDE

## Advanced Verification System using AI

- All ICCE exams are monitored and proctored using modern technology, advanced verification, and artificial intelligence.
- This is to ensure that we are able to secure and protect the integrity of the exams and keep all learners in check when taking ICCE exams.
- Violation of any of our exams rules will lead to cancellation of results and further dismissal of such a learner from the ICCE.

## Verification Steps

Before taking an ICCE exam, each test taker will be taken through the following verification steps:

- Audio settings & verifications
- Webcam settings & verifications
- Identity verification
- Desktop verification
- Exams environment verification
- Signature verification

# MISCONDUCT IN AN EXAMINATION

- A registered learner found guilty of contravening an examination regulation may be disqualified from any examinations for which the results have not yet been issued, barred from sitting examinations for a specified period, removed from the candidate register, and/or be liable to such other penalty as the Disciplinary Committee may determine.

- The examination review committee is empowered to discontinue the examination of a registered learner suspected of misconduct.

# EXAM STRUCTURE

- The **Level I exams** consists of **80 multiple choice questions** which are all compulsory
- The duration for the exam is **2 HOURS**

# EXAM RESULTS

- Learners receive instant results after each exam.
- However, final results are available and accessible via MyICCE after a review of the exams report by the Examinations Board.

# ADDITIONAL READING PLATFORMS

## NEWS PORTALS

- The Economy360
- FI Sense
- The Economist
- Bloomberg Business week
- Harvard Business Review
- Sloan Management Review

## JOURNALS

- The Economic Journal
- Quarterly Journal of Economics
- Journal of Financial Economics
- Journal of International Economics
- American Economic Review
- The Review of Economic Studies
- The Journal of Finance
- Journal of Political Economy
- Journal of Accounting and Economics
- The Review of Economics and Statistics
- The Review of Financial Studies
- Quantitative Economics
- Journal of Management Studies
- Journal of Econometrics
- Journal of Banking and Finance

**Available on** Elsevier, Oxford Academic, JSTOR, Wiley Online Library, Springer, Science Direct

# QUICK LINKS

- About ICCE exams
- Taking ICCE Exams
- About ICCE Scholarships
- About ICCE Application
- ICCE Fees

6 Liberty Square
Boston, MA 02109
Massachusetts, USA
**learner@charteredeconomist.org**