EXAM READY ECONOMICS

Exam Ready Economics

GRADE 10

Study Guide, Worked Examples and Practice Tests for the Grade 10 Examination



- ✓ 8 units with clear key ideas, worked examples and “Watch out!” boxes
- ✓ 140 worked examples and 224+ practice questions at three levels
- ✓ 160 unit-quiz questions and 3 full mock exams (60 MCQ each)
- ✓ Diagnostic test · Key Facts Sheet · Top 20 Mistakes · teacher notes

Follows the units and order of the Ethiopian Grade 10 Economics textbook

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Grade 10 · Study Guide, Worked Examples and Practice Tests

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This is an independent study guide. It follows the units and order of the Ethiopian Grade 10 Economics student textbook, but it is not published or endorsed by the Ministry of Education. All explanations, examples and questions are original. Keep your textbook and your teacher's notes beside this book.

The answers were calculated and checked before printing, but no book is free of errors. If you find a mistake or disagree with an answer, please tell the author on Telegram (@Ermias_Wedaje) and it will be reviewed for the next edition.

How to Use This Book

Each unit follows the same pattern, so you always know where to look.

Key ideas
The rules and facts of the section, short and clear.

Worked examples
Step-by-step solutions. Cover the solution and try first.

⚠ Watch out!
The mistakes students make most often, and the right way.

Practice
Level 1 Basic · Level 2 Standard · Level 3 Challenge.

Unit quiz
20 multiple-choice questions in the style of the national examination.

For the Teacher
Timing, starters, misconceptions, activities and assessment.

For students

- Begin with the Diagnostic Test. It shows which units need the most work.
- Read the key ideas, then study each example with the solution covered.
- Do Level 1 and Level 2 practice for every section; try Level 3 when you are ready.
- Take each quiz in 30 minutes, mark it, and redo every question you got wrong.
- In the last weeks, learn the Key Facts Sheet and the Top 20 Mistakes page, and sit the three mock exams. Their answer keys show which unit each question comes from.

For teachers

- Each unit follows the textbook sections, so the book can sit beside your lessons.
- The “For the Teacher” page gives timing, starters, misconceptions and activities.
- The quizzes and mock exams can be used as class tests; every answer has a short reason.

For parents

- Ask your child to explain one worked example to you each day. Teaching is the best way to learn.
- Look at the quiz score after each unit, and celebrate progress, not only high marks.

Contents

Start	Diagnostic Test · Where Should I Start?	5
Unit 1	Theory of Consumer Behaviour	8
Unit 2	Theories of Demand and Supply	18
Unit 3	Theories of Production and Cost	29
Unit 4	Market Structure	37
Unit 5	Banking and Finance	48
Unit 6	Economic Growth	60
Unit 7	The Ethiopian Economy	70
Unit 8	Business Startups and Innovation	82
Reference	Key Facts Sheet	94
Reference	Top 20 Mistakes to Avoid	95
Reference	Exam Strategy	96
	Mock Examination 1	97
	Mock Examination 2	102
	Mock Examination 3	107
	Answers to the Mock Examinations	111

Page numbers are the numbers shown at the foot of each page (and in the online reader).

Diagnostic Test · Where Should I Start?

16 questions · 15 minutes. Take this test before you start the book. There are two questions on each unit. Your score only shows you where to spend your time.

1. Utility is
   A. the income of a consumer
   B. the satisfaction a good gives
   C. the price of a good
   D. the cost of making a good

2. MU values 12, 9, 6. TU after 3 units is
   A. 15
   B. 18
   C. 27
   D. 6

3. The law of demand states that
   A. price up, quantity demanded down
   B. income up, price down
   C. supply up, price up
   D. price up, quantity demanded up

4. A rise in income for a normal good
   A. moves along the curve
   B. shifts demand left
   C. shifts demand right
   D. shifts supply

5. A production function shows
   A. price and quantity
   B. income and consumption
   C. the relation of inputs to output
   D. revenue and cost

6. Marginal product is
   A. extra output from one more input unit
   B. output per worker
   C. total cost
   D. total output

7. Which is NOT a feature of perfect competition?
   A. many sellers
   B. identical products
   C. barriers to entry
   D. free entry

8. The profit-maximising rule is
   A. MR = AR
   B. TR = TC
   C. MR = MC
   D. P = ATC

9. A financial intermediary
   A. makes laws
   B. builds houses
   C. prints newspapers
   D. links savers and borrowers

10. Which is a function of the central bank?
    A. issuing currency
    B. teaching
    C. farming
    D. selling cars

11. GDP measures
    A. value of final goods and services produced in a year
    B. all exports
    C. government budgets
    D. the number of people

Unit 1 · Theory of Consumer Behaviour

By the end of this unit you will be able to:

- define utility, total utility and marginal utility and calculate them from a schedule
- state the law of diminishing marginal utility and explain it
- find consumer equilibrium for one good (MU = P) and for two goods ($MU_x/P_x = MU_y/P_y$)
- distinguish cardinal and ordinal utility approaches
- describe indifference curves and the budget line and the ordinal equilibrium

Before you start — check yourself. (a) What does a consumer want to maximise? (b) If total utility rises from 10 to 18 when one more unit is eaten, what is the marginal utility? (c) Does satisfaction from each extra mouthful usually rise or fall?
Answers: (a) satisfaction (utility) (b) 8 (c) fall

Key words: utility · total utility · marginal utility · util · diminishing marginal utility · consumer equilibrium · indifference curve · budget line · MRS · rational consumer

How this unit is examined

Question types that appear again and again in Ethiopian model examinations:

- Utility and the Cardinal Approach
- Consumer Equilibrium in the Cardinal Approach
- The Ordinal Utility Approach

1.1 Utility and the Cardinal Approach

Key ideas

- **Utility** is the power of a commodity to satisfy a human want. A **consumer** is a decision-making unit (a person or household) that is **rational**: it has limited income, knows prices, and chooses the basket that gives the **highest satisfaction**.
- **Cardinal approach:** utility can be measured in units called **utils**. **Total utility (TU)** = total satisfaction from all units consumed. **Marginal utility (MU)** = extra satisfaction from one more unit: **MU = ΔTU/ΔQ**. Also **TU = ΣMU**.
- **Law of diminishing marginal utility:** as a consumer takes more units of a good in a given time, the **MU from each additional unit falls**. **Relations:** TU rises while MU > 0; TU is **maximum when MU = 0**; TU falls when MU < 0.
- **Assumptions:** utility is measurable in utils; rational consumer; constant tastes; constant MU of money; consumption in a given time period; units are of a standard size.

Example 1.1 — Calculate MU

TU for 1 to 5 mangoes is 10, 18, 24, 28, 30 utils. Find MU of each.

Solution. MU = 10, 8, 6, 4, 2 (the first is 10 − 0).

Example 1.2 — TU from MU

MU of 5 units of bread is 12, 9, 6, 3, 0. Find TU after 4 units and after 5 units.

Solution. TU_4 = 12 + 9 + 6 + 3 = **30**; TU_5 = 30 + 0 = **30** (TU is maximum).

Example 1.3 — Missing value

Q = 3: TU = 27, MU = 5. What is TU at Q = 4 if MU_4 = 3?

Solution. TU_4 = 27 + 3 = **30** utils.

Example 1.4 — Exam Booster · Explain

Why does the second glass of juice give less satisfaction than the first?

Solution. The first glass satisfies the strongest need; each further glass satisfies a weaker need (diminishing MU).

Example 1.5 — Exam Booster · Negative MU

TU falls from 30 to 28. Find MU and describe.

Solution. MU = −2: the extra unit gives dis-utility.

⚠ Watch out!

× Wrong	✓ Right
Total utility falls when marginal utility starts to fall.	TU keeps rising while MU is positive, even if MU is falling.
MU is the sum of the satisfaction of all units.	That is TU; MU is the satisfaction of one extra unit.
Diminishing MU means the consumer dislikes the good.	It means each extra unit adds less than the one before.

Practice 1.1

Level 1 — Basic

1. Define utility.
2. What is a util?
3. Write the formula for MU.

Level 2 — Standard

4. When is TU maximum?
5. TU is 20 at 2 units and 26 at 3 units. Find MU of the 3rd.
6. State the law of diminishing MU.

Level 3 — Challenge

7. Draw and explain the TU and MU curves.
8. Explain two assumptions of the cardinal approach.

1.2 Consumer Equilibrium in the Cardinal Approach

Key ideas

- A consumer is in **equilibrium** when satisfaction is maximised with the available income and prices; there is no reason to change the basket.
- **One good:** buy until $\mathbf{MU_x = P_x}$ (measured in the same money units). If MU > P, buy more; if MU < P, buy less.
- **Two or more goods (equi-marginal principle):** $\mathbf{MU_x/P_x = MU_y/P_y = \ldots = MU_{money}}$, and the total expenditure equals income: $\mathbf{P_xQ_x + P_yQ_y = M}$.
- **Derivation of demand:** if P_x falls, MU_x/P_x rises, so the consumer buys more X until the ratio is restored; this gives a downward-sloping demand curve.
- **Spending rule:** spend the last birr on the good with the higher MU per birr.

Example 1.6 — One good

MU of tea cups is 10, 8, 6, 4, 2 utils. The price is equivalent to 4 utils per cup. How many cups?

Solution. Buy until MU = P → **4 cups** (MU of the 4th = 4).

Example 1.7 — Two goods

P_x = 2, P_y = 1. MU_x = 12, MU_y = 5 at the current basket. Is the consumer in equilibrium? What should be done?

Solution. MU_x/P_x = 6; MU_y/P_y = 5. X gives more utility per birr: **buy more X and less Y**.

Example 1.8 — Find the basket

Income 10 birr, P_x = 2, P_y = 1. MU_x: 16, 12, 8, 4. MU_y: 8, 6, 4, 3, 2, 1. Find equilibrium.

Solution. Ratios MU/P: X: 8, 6, 4, 2; Y: 8, 6, 4, 3, 2, 1. Choose the highest ratios: X1 (8), Y1 (8), X2 (6), Y2 (6), X3 (4), Y3 (4); spending = 2 + 1 + 2 + 1 + 2 + 1 = 9; next ratio 3 (Y4) costs 1 → total 10. Basket: **X = 3, Y = 4**.

Unit 3 · Theories of Production and Cost

By the end of this unit you will be able to:

- define the production function and total, average and marginal product
- state the law of diminishing marginal returns and identify the stages of production
- distinguish short run and long run and fixed and variable factors
- calculate TFC, TVC, TC, AFC, AVC, ATC and MC
- explain the shapes of the cost curves and their relationships

Before you start — check yourself. (a) Name the four factors of production. (b) If one worker makes 10 chairs and two make 30, what is the extra output of the second? (c) Rent for a workshop does not change with output. Is it a fixed or variable cost?
Answers: (a) land, labour, capital, entrepreneurship (b) 20 (c) fixed

Key words: production function · total product · marginal product · average product · diminishing returns · short run · long run · fixed cost · variable cost · marginal cost

How this unit is examined

Question types that appear again and again in Ethiopian model examinations:

- Theory of Production
- Theory of Cost

3.1 Theory of Production

Key ideas

- The **production function** shows the maximum output obtainable from given inputs with the best technique: **Q = f(L, K, ...)**. **Short run:** at least one factor (usually capital) is **fixed**. **Long run:** all factors are variable.
- **Total product (TP)** = total output. **Average product (AP) = TP/L. Marginal product (MP) = ΔTP/ΔL.**
- **Law of diminishing marginal returns:** when more of a variable factor is added to fixed factors, beyond some point **MP falls**. **Relationships:** TP rises while MP > 0; TP is maximum when MP = 0; **MP cuts AP at AP's maximum**; AP rises when MP > AP and falls when MP < AP.
- **Stages: Stage I** — AP rising (up to max AP); **Stage II** — AP falling, MP positive (the rational stage); **Stage III** — MP negative (TP falls).
- **Technological progress** shifts the production function upward. **Returns to scale (long run):** increasing, constant or decreasing as all inputs are scaled together.

Unit 5 · Banking and Finance

By the end of this unit you will be able to:

- explain financial intermediaries, financial markets and financial institutions
- describe the historical development of banking in Ethiopia
- describe microfinance institutions and their role
- explain electronic banking and its benefits and risks
- describe iqqub and iddir as indigenous financial institutions

Before you start — check yourself. (a) Name one bank in Ethiopia. (b) What is the money you put in a bank called? (c) Who lends to people who have no collateral?
Answers: (a) e.g. Commercial Bank of Ethiopia (b) a deposit (c) microfinance institutions

Key words: financial intermediary · financial market · deposit · loan · collateral · central bank · microfinance · e-banking · iqqub · iddir

How this unit is examined

Question types that appear again and again in Ethiopian model examinations:

- Financial Intermediaries, Markets and Institutions
- Historical Development of Banks in Ethiopia
- Microfinance and Electronic Banking
- Indigenous Financial Institutions

5.1 Financial Intermediaries, Markets and Institutions

Key ideas

- A **financial intermediary** is a middleman between **savers** (surplus units) and **borrowers/investors** (deficit units), e.g. the Commercial Bank of Ethiopia. **Benefits:** safety of deposits, **liquidity**, **economies of scale**, risk spreading and information.
- **Financial markets** channel savings into investment. **Money market:** short-term funds (under one year: treasury bills, call money). **Capital market:** long-term funds (bonds and shares). **Primary market:** new securities; **secondary market:** trading of existing securities.
- **Financial institutions** are intermediaries: **banks** (central bank, commercial banks, development banks), **insurance companies**, **microfinance institutions**, pension funds, savings and credit cooperatives.
- **Functions of the central bank (National Bank of Ethiopia):** issues currency, controls the money supply and interest rates, regulates banks, acts as banker to the government and holds foreign reserves. **Commercial banks:** accept deposits, give loans, transfer money, foreign exchange. **Development banks:** long-term finance for agriculture and industry.

Unit 7 · The Ethiopian Economy

By the end of this unit you will be able to:

- identify the components of GDP and compute GDP by the expenditure approach
- distinguish nominal and real GDP and compute real GDP and the GDP deflator
- describe the agricultural sector, its roles, problems and the ADLI strategy
- describe the industrial and service sectors in Ethiopia
- compare agriculture-led and industry-led development

Before you start — check yourself. (a) Name two crops grown in Ethiopia. (b) Which sector employs most Ethiopians? (c) What is the difference between exports and imports?
Answers: (a) e.g. teff, coffee (b) agriculture (c) exports are sold abroad; imports are bought from abroad

Key words: GDP · consumption · investment · net exports · nominal GDP · real GDP · GDP deflator · ADLI · smallholder · industrial park

How this unit is examined

Question types that appear again and again in Ethiopian model examinations:

- Components of GDP
- Real GDP and Nominal GDP
- The Agricultural Sector
- Industry, Services and Development Strategy

7.1 Components of GDP

Key ideas

- By the **expenditure approach**: **Y = C + I + G + NX**. **C** = household **consumption** (largest part); **I** = **investment** (business spending on machines, buildings, stocks and new houses; not buying shares); **G** = **government purchases** of goods and services (not transfer payments); **NX** = exports (X) − imports (M).
- **Net exports** are positive when X > M (a trade surplus) and negative when M > X (a trade deficit). Imports are subtracted because C, I and G include imported goods.
- **Ethiopia's pattern:** consumption is the largest share; investment is high for a low-income country; net exports are **negative** (large trade deficit).
- **Other approaches:** the **production (value-added) approach** and the **income approach** (wages + rent + interest + profit) give the same GDP.

Key Facts Sheet

Learn these by heart. Cover the right-hand side and say each fact from memory.

Unit 1 · Consumer behaviour

MU = ΔTU/ΔQ ; TU max when MU = 0

Diminishing MU: MU falls as more is consumed

One good: MU = P

Two goods: $MU_x/P_x = MU_y/P_y$

Budget line slope = $-P_x/P_y$

Ordinal equilibrium: MRS = P_x/P_y

Unit 2 · Demand and supply

Law of demand: P up, Q_d down

Law of supply: P up, Q_s up

Equilibrium: $Q_d = Q_s$

E_d = %ΔQ ÷ %ΔP ; $|E_d| > 1$ elastic

Inelastic: P up, revenue up

Own price: movement ; other factors: shift

Unit 3 · Production and cost

MP = ΔTP/ΔL ; AP = TP/L

MP cuts AP at max AP

TC = TFC + TVC ; ATC = AFC + AVC

MC = ΔTC/ΔQ

MC cuts ATC and AVC at their minimum

Short run: one factor fixed

Unit 4 · Market structure

Perfect competition: P = MR = MC

Shut down if P < AVC

Monopoly: MR < P ; MR = MC

Demand P = a − bQ gives MR = a − 2bQ

Monopolistic competition: differentiated, free entry

Oligopoly: few firms, interdependent

Unit 5 · Banking and finance

1905 Bank of Abyssinia ; 1931 Bank of Ethiopia

1943 State Bank ; 1963 NBE and CBE

1974 nationalisation ; 1994 private banks

MFIs: small loans, no collateral

EFT: ATM, POS, mobile banking

Iqqub: rotating savings ; iddir: mutual aid

Unit 6 · Economic growth

Growth = $(Y_1 - Y_0) \div Y_0 \times 100$

Per capita = GDP ÷ population

Sources: labour, capital, technology, institutions

GDP excludes housework, leisure, environment, inequality

Phases: expansion, peak, contraction, trough

Recession: two quarters of falling real GDP

Unit 7 · Ethiopian economy

Y = C + I + G + NX ; NX = X − M

Deflator = nominal ÷ real × 100

Agriculture employs over 80%

ADLI: agriculture-led industrialisation

Shares 2019/20: agri 33%, industry 29%, services about 40%

Structural transformation: farming to industry and services

Unit 8 · Business and innovation

Innovation = creativity + implementation

Types: product, process, organisational, marketing

Sole: one owner, unlimited liability

Partnership: 2 or more persons

Corporation: shareholders, limited liability

BCR > 1: accept ; break-even = FC ÷ (P − VC)

Mock Examination 1

60 multiple-choice questions · 90 minutes · one mark each. Circle one answer. Mark with the answer key at the back and use the unit number to see where to revise.

1. Utility is
   A. the income of a consumer
   B. the satisfaction a good gives
   C. the price of a good
   D. the cost of making a good

2. Marginal utility is
   A. the price
   B. average satisfaction
   C. the extra satisfaction from one more unit
   D. total satisfaction

3. TU rises from 10 to 18. MU is
   A. 10 B. 28 C. 8 D. 18

4. MU values 12, 9, 6. TU after 3 units is
   A. 15 B. 18 C. 27 D. 6

5. TU is maximum when MU is
   A. zero B. maximum C. negative D. equal to price

6. When MU is negative, TU
   A. falls B. is constant C. rises D. doubles

7. The law of diminishing MU states that MU
   A. falls as more is consumed
   B. equals price
   C. rises as more is consumed
   D. is constant

8. A util is
   A. a unit of output
   B. a unit of utility
   C. a unit of money
   D. a unit of time

9. The law of demand states that
   A. price up, quantity demanded down
   B. income up, price down
   C. supply up, price up
   D. price up, quantity demanded up

10. The demand curve slopes
    A. vertically B. upward C. downward D. horizontally

11. A change in the good's own price causes
    A. no change
    B. a movement along the demand curve
    C. a shift of supply
    D. a shift of demand

12. A rise in income for a normal good
    A. moves along the curve
    B. shifts demand left
    C. shifts demand right
    D. shifts supply

13. Tea and coffee are
    A. inferior B. complements C. public goods D. substitutes