Tribhuvan University
Institute of Science and Technology

BACHELORS IN INFORMATION TECHNOLOGY (BIT)

Orientation program Proceedings

Economics

Course Title: Economics
Course No: ECO155
Nature of the Course: Theory
Semester: II

Full Marks: 40 (Internal) + 60 (Final)
Pass Marks: 16 (Internal) + 24(Final)
Credit Hrs.: 3

Course Description

This course covers the basic concepts of microeconomics and macroeconomics. In encompasses basic economic problems, demand, supply, market equilibrium, elasticity of demand and supply, consumer choice, production, cost, revenue, market structure, concept of national product and income and its measurement, monetary and fiscal policies.

Course Objectives

The main objective of this course is to make students familiar with the basic concepts of economics.

Course Expectations:

All relevant regulations and policy, including those relating to attendance, punctuality and academic honesty, contained in the academic bulletin apply.

Students may not view or use a cell phone or other electronic communication device during a class session, whether inside the classroom or not, unless such use has been authorized by the lecturer for a specific educational activity.

Methods of Instruction:

Instruction will be mostly centred on materials presented by the lecturer.
Students will construct knowledge by participating in class discussions and group work.
Students will reflect upon and discuss videos shown in class
Students will have the opportunity to do economic research.

Assignment: Written test, Term paper, Quizzes, Presentation, Debate

Text / Reference Books:

1. Lipsey, R.G., & Chrystal, K.A. (2008). *Economics*, 11th ed., (Indian Edition). New Delhi: Oxford University Press.

2. Samuelson, P.A. & Nordhaus, W.D. (2005). *Economics*, 18thed. New Delhi: Tata McGraw-Hill Publishing Company Ltd.

Detailed Course

Unit	Content	LHS
Unit 1	**Economic Issues and Concepts**	4
	Introduction of economics Alfred Marshall (Lipsey, and Lionel Robbins' definitions	1
	Concept of microeconomics and its scope;	1
	Main characteristics of free market, centrally planned and mixed economic systems; (With examples)	1
	Society's production possibility curve/frontier and choice, scarcity and opportunity cost.	1
Unit 2	**Demand, Supply and Price**	10
	Meaning of demand, Law of demand	1
	Individual and market demand, movement along and shift of a demand (with schedule and graph/curve);	1
	Meaning of supply, law of supply,	1
	Individual and market demand, movement along and shift of a demand (with schedule and graph/curve);	1
	market equilibrium: the interplay of demand and supply; change in market equilibrium due to factors shifting the demand and supply curves;	1
	Defining elasticity of demand (price, income and cross), price elasticity and its measurement (percentage, arc/ midpoint)	1
	Income and cross elasticity of demand and its types and measurement	1
	Concepts of Elasticity of supply, concept of consumer and producer surpluses;	

	Government intervention in the market through price floor, price ceiling and tax and effect	1
	Numerical Examples	1
	Presentation, Debate and Discussion	1
Unit 3	**Consumer Choice: Indifference Theory**	6
	Concept of utility, total utility and marginal utility; Law of diminishing marginal utility;	1
	Indifference curve analysis: Meaning and assumptions of indifference curve analysis; Derivation	1
	Marginal rate of substitution (MRS); basic properties of indifference curves; right-angled (L-shaped) and linear (straight line) indifference curves	1
	Consumer's budget line; consumer's equilibrium	1
	Income consumption curve (ICC) and price consumption curve (PCC) for normal, inferior, and Giffen goods. (Demand curve)	1
	Discussion	1
Unit 4	**Production**	6
	Meaning of production, Cobb-Douglas production function	1
	Production with one variable input: the law of diminishing marginal productivity/returns;	1
	Production with two variable inputs: concept of isoquant; Property of isoquants; right-angled(L-shaped) and linear (straight line) isoquants;	1
	Concept of iso-cost curve (meaning, equation, slope); producer's equilibrium,	1
	Condition for optimum employment of one, two and many inputs/factors of production;	1

		Production in the long run: Concepts of returns to scale with possible causes of each.	1
Unit 5	**Costs and Revenue**		**5**
		Concept of economic cost as a sum of explicit and implicit costs; short run total costs (fixed and variable) and unit costs (average fixed, average variable, average total, and marginal) and their curves;	1
		Relation between average variable, average total and marginal costs (graphical)	**1**
		Costs in the long run: average and marginal costs; causes of U-shaped and L-shaped long run average cost curves	**1**
		Concepts of total, average and marginal revenues and their curves in the perfect competition and imperfect competition markets.	1
		Numerical Examples	1
Unit 6	**Market Structure**		**8**
		Perfect competition: characteristics	1
		Price and output determination in the short and long run using the total and marginal approaches;	1
		Monopoly market: Characteristics, sources of monopoly	1
		Price and output determination in the short and long run using the total and marginal approaches;	1
		Monopolistic competition: Features and price–output determination using total and marginal approaches;	1
		Oligopoly market: Basic features/characteristics	1
		Meaning of cartel; Centralized cartel	1
		Numerical Problem	1
Unit 7	**National Product and its Measurement**		**4**
		Concept of macroeconomics and its scope	1

	Concepts of gross domestic product (GDP), gross national income (GNI), net national product (NNP), national income (NI), personal income (PI), disposable personal income (DPI);	1
	Measurement of national income and output by expenditure, income (cost of production) and value-added approaches.	1
	Numerical Examples	1
Unit 8	**Macroeconomic Policies**	2
	Concept of expansionary and contractionary fiscal and monetary policies	1
	Tools of fiscal and monetary policies.	1

Examination Table of Specifications					
Objectives	**Units**	**Question Type**	**No. and Nature of Questions**	**Points per Question**	**Total Value**
Create, Analyze, Evaluate	2, 3, 4, 5, 6, 7	Long Answer Questions	2(3) Theoretical	10	2x10=20
Apply, Understand, Remember / recognizing	Theoretical (1, 3,4,8) Numerical (2, 3, 5, 6,7) Elasticity, Revenue, Cost, NI)	Short Answer Questions	8(9) Theoretical (5) Numerical Problem (4)	5	Theoretical =20 Numerical = 20 Total = 8x5 = 40
Total					60
Note: This is a tentative outline for the question pattern. All the chapters should be covered with no repetition of long answer questions, short answer questions as well as numerical problems. The questions and its marks should be proportional to the weightage of the units. The numerical questions should be based on the theory.					

MODEL QUESTION (for final examination)

Tribhuvan University
Institute of Science   and Technology
Bachelors in Information Technology

Level: Bachelor
Semester: II   Full Marks: 60
Course: Economics   Pass Marks: 24
Course Code: ECO155   Time: 3.00 hrs.

Candidates are required to give answers of the questions in their words as far as practicable.

Group A (Attempt any TWO)   2x10=20

1. Define elasticity of demand. Discuss the relationship between total expenditure
     and price elasticity of demand.
2. What is indifference curve? How can a consumer will attain an equilibrium under indifference curve
     approach?
3. Distinguish between GDP and GNP. Describe various problems of measuring national income in developing
countries like Nepal.

Group B (Attempt any EIGHT)   8x5=40

4. Describe briefly society's production possibility curve.
5. Suppose a demand schedule is given as below:

Price	100	80	60	40	20	0
Quantity demand	100	200	300	400	500	600

   a. Workout with elasticity for fall in price from Rs. 80 to Rs. 60.

   b. Calculate elasticity for the increase in price from Rs. 60 to Rs. 80.

   c. Why is the elasticity coefficient in part a) different from that in b)?

6. The cost and output of a firm is as below:

Output (units)	0	1	2	3	4	5	6
TC (Rs.)	150	300	420	600	790	1000	1260

   From this information find out
   i. AFC of producing 3 units
   ii. AVC of producing 4 units
   iii.   Least AC level of output
   iv.   MC of producing 5 units and
   v. TVC of producing 6 units
7. Demand and cost function faced by a firm is given as

P = 12 – 0.4 Q

C= 5 + 4Q + 0.6Q²

Find the equilibrium price, quantity, total revenue, total cost and total profit which maximizes profit of the firm.

8. Discuss the government intervention in the market through price floor, price ceiling and tax and effect.
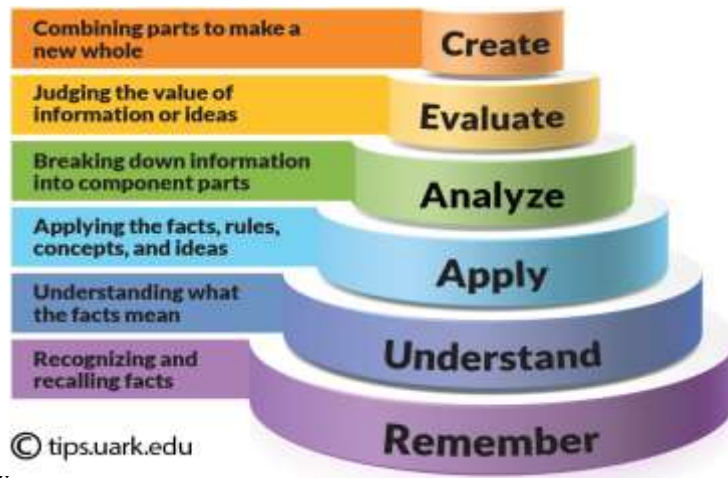
9. Describe the tools of monetary policy.

10 What are the properties of Iso-quant?

11. Explain centralized cartel.

12. Find the gross domestic product at market prices from following data.

S.N.	Particular	Rs. (In crores)
1.	Consumption of fixed capital (Depreciation)	60
2.	Government's final consumption expenditure	200
3.	Net factor income from abroad	- 10
4.	Private final consumption expenditure	800
5.	Export	50
6.	Import	30
7.	Gross domestic capital formation	230

The End

BLOOM's Taxonomy