**Economics Discipline, Khulna University**

**3rd Year 2nd Term Final Examination 2026; Session 2024-2025**

**Course No.: 0311 15 Econ 3201; Course Title: Macroeconomic Theory**

**Full Marks: 60; Time: 03 Hours**

*The figures in the right margin indicate marks.*

## Section A

*There are **04** questions in this section. Answer any **03** questions.*

**1.** **a)** Define Lucas critique with a suitable example. [CLO1; L1] **02**

**b)** Differentiate between adaptive expectations and rational expectations with suitable examples. [CLO2; L4] **04**

**c)** Explain the derivation process of the rational expectations model and mention it's key messages. [CLO2; L4] **04**

**2.** **a)** How can shocks to aggregate demand and shocks to aggregate supply cause economic fluctuations? – Graphically explain. [CLO2; L3] **06**

**b)** Describe how the central bank accommodates the supply shock. [CLO5; L4] **04**

**3.** **a)** Why are wages and prices sticky in the short run according to New Keynesian Economics? [CLO2; L3] **05**

**b)** Explain the four central disagreements in the debate over real business cycle theory. [CLO2; L4] **05**

**4.** **a)** Analyze how equilibrium wage and employment levels are determined in the labor market. [CLO3; L3] **05**

**b)** Does higher wage always increase labor supply? – Describe your stand using the income and substitution effects of a higher wage. [CLO4; L5] **05**

## Section B

*There are **04** questions in this section. Answer any **03** questions.*

**1.** **a)** Describe the concept of purchasing power parity (PPP) and its relevance to exchange rate determination. [CLO2; L2] **05**

**b)** Analyze the effectiveness of monetary policy for an open economy under a floating exchange rate. [CLO3; L4] **05**

**2.** **a)** Describe the impact of fiscal and monetary policy on aggregate income for an open economy under fixed exchange rate. [CLO3; L4] **07**

**b)** Critically examine the relationship between exchange rate movements and international competitiveness in an open economy. [CLO5; L5] **03**

**3.** **a)** Describe the derivation process of the Harrod-Domar economic growth model and mention the weaknesses of this model. [CLO1; L4] **05**

**b)** 'The Solow model improves on some of the weaknesses in the Harrod Domar framework and has become the most influential growth model in economics.' – Diagrammatically explain the statement. [CLO1; L5] **05**

**4.** **a)** Describe how fiscal policy at home and abroad influences the trade balance in a small open economy. [CLO2; L4] **05**

**b)** Suppose the production function of Solow model is $Y = K^{1/2}L^{1/2}$ and the initial capital per worker is 4 units. Also, assume that 30 percent of output is saved, and 10 percent of the capital stock depreciates every year. Calculate output, consumption, investment, and change in the capital stock per worker for two years. What will be the steady-state level of capital per worker? [CLO6; L5] **05**



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**Economics Discipline, Khulna University**
**3rd Year 2nd Term Final Examination 2026; Session 2024-2025**
**Course No.: 0311 15 Econ 3203; Course Title: Introduction to Econometrics**
**Full Marks: 60; Time: 03 Hours**

*The figures in the right margin indicate marks.*

## Section A

*There are **04** questions in this section. Answer any **03** questions.*

**1. a)** What are the differences between the population regression function and the sample regression function? [CLO1; L2] **03**

**b)** 'Econometrics is the result of a certain outlook on the role of economics.' In light of this statement, evaluate why pure economic theory alone is insufficient for policy-making. [CLO1; L5] **07**

**2. a)** Consider the classical assumption that the disturbance term $u_i$ follows a normal distribution. Discuss the consequences for the OLS estimators if this assumption is violated in a small sample. [CLO2; L2] **03**

**b)** Using the method of Ordinary Least Squares (OLS), derive the following estimators for the intercept ($\hat{\beta}_1$) and the slope ($\hat{\beta}_2$): [CLO2; L3]

$\hat{\beta}_2 = \frac{\sum x_i y_i}{\sum x_i^2}$ and $\hat{\beta}_1 = \bar{Y} - \hat{\beta}_2 \bar{X}$ **07**

**3. a)** Discuss the concept of 'Best' in the BLUE property of OLS estimators. Under what conditions does an estimator fail to be the 'Best'? [CLO4; L3] **04**

**b)** A researcher estimates a two-variable regression model using a sample of 12 observations. The estimated slope coefficient ($\hat{\beta}_1$) is 0.55 with a calculated standard error ($se(\hat{\beta}_1)$) of 0.10.

**i.** Construct a 95% Confidence Interval for the true population parameter $\beta_1$; [CLO4; L3] **02**

**ii.** Using the 'test of significance' approach, perform a two-tailed test to determine if the true slope coefficient ($\beta_1$) is significantly different from 0.30 at the 5% level of significance; [CLO4; L3] **02**

**iii.** State your decision rule and conclude whether you should reject or fail to reject the null hypothesis based on your calculated t-statistic ($t^*$). [CLO4; L5] **02**

**4. a)** Discuss the 'Zero Conditional Mean' assumption, $E(u_i|X_i) = 0$. What happens to the OLS estimators if the regressors ($X$) are correlated with the error term ($u$)? [CLO2; L2] **03**

**b)** Prove that arithmetic mean of actual $Y_i$ is equal to the arithmetic mean of predicted $Y_i$; ($\bar{Y}_i = \bar{\hat{Y}}_i$). [CLO2; L3] **03**

**c)** Briefly discuss the role of stochastic error term $u_i$ in regression analysis. [CLO1; L2] **04**



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## Section B

*There are **04** questions in this section. Answer any **03** questions.*

**1.** **a)** Differentiate between $R^2$ and adjusted $R^2$ [CLO2; L2] **03**

**b)** What is the nature of multicollinearity and what are its' practical consequences? [CLO5; L3] **04**

**c)** Construct a regression model and write the explanation of partial coefficients and returns to scale of the following Cobb-Douglas production function (Y= output, X= input: [CLO4; L5]

$$Y_i = \beta_1 X_{2i}^{\beta 2} X_{3i}^{\beta 3} \ldots\ldots\ldots\ldots\ldots . X_{ki}^{\beta k} e^{ui}$$ **03**

**2.** **a)** Prove that: Total Sum of Squares (TSS) = Explained Sum of Squares (ESS) + Residual Sum of the Squares (RSS). [CLO2; L3] **03**

**b)** Using the following data for 5 observations, obtain the OLS estimate for the model $Y_i = \beta_1 + \beta_2 X_i + u_i$ [CLO3; L3] **07**

| Observation | Y (Consumption in $) | X (Income in $) |
|---|---|---|
| 1 | 18,200 | 25,000 |
| 2 | 24,500 | 35,000 |
| 3 | 21,000 | 30,000 |
| 4 | 28,400 | 45,000 |
| 5 | 22,600 | 32,000 |

**3.** **a)** 'The presence of autocorrelation does not violate the unbiasedness of OLS estimators, but it makes the standard $t$ and $F$ tests unreliable.' – Explain this statement. [CLO5; L2] **05**

**b)** Explain the nature of heteroskedasticity. Why does the presence of heteroskedasticity not bias the OLS estimators, yet render them 'inefficient'? [CLO5; L2] **05**

**4.** Write short notes on the following: [CLO5; L1]

**a)** Omitted variable bias; **03**

**b)** Durbin-Watson (d) test; and **04**

**c)** Multicollinearity. **03**



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**Economics Discipline, Khulna University**
**3rd Year 2nd Term Final Examination 2026; Session 2024-2025**
**Course No.: 0311 15 Econ 3205; Course Title: Research Methodology**
**Full Marks: 60; Time: 03 Hours**

*The figures in the right margin indicate marks.*
*The provided generic rubric will be applied for evaluating the answers, where appropriate.*

## Section A

*There are **04** questions in this section. Answer any **03** questions.*

**1.** **a)** Distinguish between research method and methodology. [CLO1; L4] **03**

**b)** Explain why, for the generalization of research findings, qualitative research is not applicable. Give a suitable example. [CLO1; L4] **04**

**c)** Critically evaluate whether quantitative research is more reliable than qualitative research. [CLO1; L5] **03**

**2.** **a)** Identify the major components of a research proposal. [CLO2; L3] **03**

**b)** Differentiate between research question and research objective, with examples. [CLO2; L3] **03**

**c)** Suppose you want to conduct a study on youth unemployment and skill development in Bangladesh. Prepare a brief outline of the research including a title, one general and three specific objectives, probable data source, and proposed research methods in brief. [CLO6; L6] **04**

**3.** **a)** What are the essential characteristics of a critically sound literature review? [CLO3; L2] **03**

**b)** Explain the importance of identifying a research gap in academic research. [CLO3; L3] **03**

**c)** A student collects several journal articles but merely summarizes them one after another. Critically evaluate why this may not be considered a good literature review. Suggest ways to improve the review process. [CLO3; L5] **04**

**4.** **a)** Differentiate between population and sample. Cite example. [CLO4; L2] **03**

**b)** Compare probability sampling and non-probability sampling techniques with suitable examples. [CLO4; L4] **03**

**c)** You are assigned to conduct a field survey on household income and expenditure in a district of Bangladesh. Discuss which sampling and data collection methods would be most appropriate and why. [CLO4; L5] **04**



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## Section B

*There are **04** questions in this section. Answer any **03** questions.*

| | | | |
|---|---|---|---|
| **1.** | **a)** | Describe: Data entry, Data coding, and Data cleaning. [CLO1; L1] | **03** |
| | **b)** | Explain the stages and types of data processing in social research. [CLO5; L3] | **03** |
| | **c)** | A researcher collects survey data containing missing values, inconsistent coding, and duplicate entries. Discuss the steps that should be followed to prepare the dataset for analysis and presentation. [CLO5; L5] | **04** |
| **2.** | **a)** | Identify the major steps and tools of data analysis along with the challenges faced by the researchers. [CLO5; L2] | **03** |
| | **b)** | How do descriptive statistics contribute to meaningful interpretation of research data? Explain with examples. [CLO5; L3] | **03** |
| | **c)** | Evaluate the usefulness of correlation and regression analysis in social research. [CLO5; L5] | **04** |
| **3.** | **a)** | Assess whether a paired t-test always provides more reliable results than an independent sample t-test. [CLO1; L5] | **02** |
| | **b)** | Critically evaluate the role of comparing findings with the existing literature in ensuring research validity while discussing findings. [CLO5; L5] | **04** |
| | **c)** | Examine how the poor arrangement of findings can affect the clarity of the research. [CLO5; L4] | **04** |
| **4.** | **a)** | What are the commonly used types of qualitative research in social science studies? [CLO1; L2] | **03** |
| | **b)** | Identify the major components of a formal research report. [CLO6; L3] | **03** |
| | **c)** | Evaluate the importance of editing, proofreading, and citation in maintaining the quality and credibility of academic research. [CLO6; L5] | **04** |

***Generic rubric for assessment of the questions (as appropriate)***

| **Performance** | **Excellent** | **Very Good** | **Good** | **Fair** | **Poor** |
|---|---|---|---|---|---|
| **Score** | **81% - 100%** | **61% - 80%** | **51% - 60%** | **41% - 50%** | **0% - 40%** |
| Understanding, application, and insights | Complete and accurate | Mostly accurate | Basic level | Limited | Very little |
| Knowledge recall and analysis | Well-integrated | Minor gaps | Partial level | Major errors | Incorrect or missing |
| Interpretation and justification | Very clear | Mostly clear | Basic level | Limited | Missing or incorrect |
| Use of supporting evidence, example, etc. | Highly relevant | Mostly relevant | Limited | Weak or poor | Not relevant |
| Clarity and organization | Well-organized | Clear and organized | Understandable | Poor organization | Disorganized and unclear |



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**Economics Discipline, Khulna University**
**3rd Year 2nd Term Final Examination 2026; Session 2024-2025**
**Course No.: 0311 15 Econ 3211; Course Title: Natural Resource Management**
**Full Marks: 60; Time: 03 Hours**

*The figures in the right margin indicate marks.*

## Section A

*There are **04** questions in this section. Answer any **03** questions.*

**1.** **a)** What do you mean by natural resource management? [CLO1; L2] **02**

**b)** Why is natural resource management so important? Describe based on the ecological, environmental, and economic perspectives. [CLO1; L4] **04**

**c)** How can efficient resource management minimize the social challenges caused by natural resource scarcity? Provide your judgment with suitable logics. [CLO2; L5] **04**

**2.** **a)** Which are the key considerations of renewable resource exploitation? Explain. [CLO2; L3] **04**

**b)** Graphically explain the Sustainable Yield function of fisheries and analyze how Sustainable Yield is related to future stocks and efforts. [CLO2; L4] **06**

**3.** **a)** Define 'sustainable development' in the context of natural resource management. Discuss two practical strategies to manage natural resources sustainably. [CLO1; L2] **04**

**b)** Distinguish between renewable and non-renewable resources. Explain the key management challenges associated with each type of resource. [CLO1; L4] **06**

**4.** **a)** Critically differentiate between the absolute and relative natural resource scarcity. [CLO2; L3] **03**

**b)** What are the major environmental concerns in the resource depletion era, the environmental public goods era, and the ecological scarcity era? [CLO2; L3] **03**

**c)** How does recycling mitigate natural resource scarcity? – Evaluate. [CLO3; L4] **04**

## Section B

*There are **04** questions in this section. Answer any **03** questions.*

**1.** **a)** Explain the biological growth function of fisheries with suitable graphs and equations, where required. [CLO1; L3] **06**

**b)** Which factors do you think should be considered in case of sustainable fisheries management? Why? Explain with suitable graph and logics. [CLO1; L4] **04**

**2.** **a)** Explain the model of harvesting forest resource at optimum level. [CLO1; L3] **06**

**b)** How do you relate social forestry as an approach to ecosystem management? Evaluate. [CLO2; L5] **04**

**3.** **a)** Define ecosystem services and explain the services provided by wetlands such as *Hail Haor*. [CLO3; L2] **04**

**b)** How does integrating ecological functions with economic valuation improve decision-making for sustainable wetland management? [CLO3; L3] **06**

**4.** **a)** Propose a framework for implementing integrated ecosystem management policy. [CLO4; L4] **06**

**b)** Explain the key strategies that can be implemented globally to promote natural resource conservation. [CLO4; L4] **04**



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