

Khulna University, Khulna

Urban and Rural Planning Discipline

MURP 1st Year, Term-I Examination, Session 2025-2026

Course No. 0542 04 Stat 5177

Full Title of Course: Statistical Methods for Planning Research

Full Marks: 60 Time: 3 hours

- The figures in the margin indicate full marks.
- Use separate sheet for each section.

Section A

There are **four** questions in this section. Answer any **three** questions.

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|----|-----|--|----|
| 1. | (a) | Describe the properties of Mean, Median and Mode. [L2, CLO4] | 03 |
| | (b) | Identify and justify which measure(s) of central tendency may become misleading in the presence of outliers. [L5, CLO2] | 03 |
| | (c) | Explain the role of skewness and kurtosis in decision-making and research analysis. [L2, CLO4] | 04 |
| 2. | (a) | Describe the four steps involved in hypothesis testing. [L2, CLO3] | 04 |
| | (b) | Write the difference between independent sample t-test and One way ANOVA. Give a real-world example for each type. [L4, CLO3] | 02 |
| | (c) | Briefly explain the key assumptions that must be satisfied for a One-Way ANOVA to produce valid results. [L2, CLO3] | 04 |
| 3. | (a) | What is Z-standardization, and how does it help in comparing data from different distributions? [L2, CLO3] | 02 |
| | (b) | Explain Type I and Type II errors in hypothesis testing, and briefly describe how each type of error can be controlled. [L2, CLO3] | 03 |
| | (c) | The mean annual expenditure per 25- to 34-year-old consumer for health care is \$1468. This includes health insurance, medical services, and drugs and medical supplies. Students at a large university took a survey, and it was found that for a sample of 60 students, the mean health care expense was \$1520, and the population standard deviation is \$198. Is there sufficient evidence at $\alpha = 0.01$ to conclude that their health care expenditure differs from the national average of \$1468? Is the conclusion different at $\alpha = 0.05$? [L3, CLO3] | 05 |
| 4. | (a) | Explain the importance of standard deviation in research and decision-making. [L2, CLO4] | 03 |
| | (b) | A meteorological station in an urban area recorded the daily average temperature ($^{\circ}\text{C}$) over 10 consecutive days as follows: | 05 |
| | | 32, 34, 33, 35, 36, 34, 33, 37, 31, 34 | |
| | | Calculate the standard deviation of the temperatures to determine how much the daily temperatures deviate from the mean. [L3, CLO2] | |
| | (c) | Describe why income distribution is usually positively skewed. [L2, CLO4] | 02 |

Section B

There are **four** questions in this section. Answer any **three** questions.

1. (a) What is the correlation coefficient? [L1, CLO2] 02
(b) Differentiate between Pearson's and Spearman's correlation methods. [L2, CLO2] 04
(c) "Correlation does not imply causation" – do you think so? Defend your position. [L4, CLO2] 04

2. (a) Discuss the issue of multicollinearity in regression analysis and explain how it can affect the reliability of coefficient estimates and the overall model interpretation. [L2, CLO2] 03
(b) Identify and briefly describe the main assumptions that must be satisfied for a simple linear regression model to be valid. [L2, CLO2] 03
(c) A simple linear regression model was developed to predict house price (in USD) based on house size (in square feet). The model summary is given below: 04

Model Summary			
R	R ²	Adjusted R ²	Standard error of the estimate
0.92	0.84	0.82	27630.79

Interpret each of the values in the model summary and explain what they indicate about the model's performance. [L3, CLO2]

3. (a) Differentiate between an event, a simple event, and a sample space in probability. Provide one example for each to illustrate your answer. [L2, CLO1] 03
(b) What are the three common approaches to finding the probability of an event? Explain each with an example. [L2, CLO1] 03
(c) Urban planners conducted a survey of 50 households in a neighborhood to understand their waste disposal practices. The results showed that 21 households used municipal waste collection services, 22 relied on private waste collection, 5 disposed of their waste through informal methods such as open dumping, and 2 participated in community composting programs. Based on this information, calculate the probability that a randomly selected household:
i. Uses municipal collection [L2, CLO1] 01
ii. Uses either private or informal disposal methods [L2, CLO1] 01
iii. Uses neither municipal nor private collection, and [L2, CLO1] 01
iv. Does not use community composting [L2, CLO1] 01

4. Write short notes on any four of the following 2.5×4 10
(a) Linear Regression [L2, CLO2]
(b) Logistic Regression [L2, CLO2]
(c) Strength of Correlation [L2, CLO4]
(d) Coefficient of alienation [L2, CLO4]
(e) Principal Component Analysis (PCA) [L2, CLO4]

Khulna University, Khulna
Urban and Rural Planning Discipline
MURP 1st Year, Term-I Examination, Session 2025-2026
Course No. 0731 04 URP 5143
Full Title of Course: Sustainable Urban Water and Sanitation
Full Marks: 60 Time: 3 hours

- The figures in the margin indicate full marks.
- Use separate sheet for each section.

Section A

There are **four** questions in this section. Answer any **three** questions.

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|----|-----|--|----|
| 1. | (a) | How would you develop the relationship between WASH and SDGs? [L1, CLO1] | 04 |
| | (b) | Develop a comparative analysis of viable WASH technologies for vulnerable populations such as the elderly, young children, and the disabled. [L3, CLO2] | 06 |
| 2. | (a) | Critically examine the spatial inequalities in ADP allocation in water sector. [L2, CLO2] | 04 |
| | (b) | Recommend policy measures to address the inequalities. [L5, CLO4] | 06 |
| 3. | (a) | Describe the domestic wastewater treatment system, rural sewerage, and drainage system in Japan. [L1, CLO1] | 06 |
| | (b) | What were the activities performed in 'River environmental survey' in Japan [L3, CLO3]? | 04 |
| 4. | (a) | Explain the shifting political economy of water and its impact on global water supply landscape. [L5, CLO4] | 05 |
| | (b) | Smart meter, water ATM and other technologies are believed to improve the water access situation. Construct your understanding on how far the technology can improve the water access from 'the politics of technological fix' perspective. [L5, CLO4] | 05 |

Section B

There are **four** questions in this section. Answer any **three** questions.

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|----|-----|--|----|
| 1. | (a) | What do you mean by sustainable sanitation and wastewater management? What are the key sustainability dimensions in sanitation and wastewater management? [L2, CLO2] | 05 |
| | (b) | Critically discuss the added value of sustainable sanitation and wastewater management in terms of economic, social, environmental, and public health benefits. [L2, CLO2] | 05 |
| 2. | (a) | How does the City-Wide Inclusive Sanitation [CWIS] differ from the traditional sanitation planning framework? [L4, CLO3]. | 03 |
| | (b) | Discuss the CWIS measurement framework to evaluate whether sanitation is treated as a public service, rather than just infrastructure. [L3, CLO3]. | 07 |
| 3. | (a) | Examine the institutional framework and planning mechanisms for sanitation management in Bangladesh. [L4, CLO4] | 10 |
| 4. | (a) | Discuss the key concepts and financing mechanisms of urban sanitation services and analyze the challenges of ensuring sustainable sanitation financing in developing countries. [L5, CLO4] | 10 |

Khulna University, Khulna

Urban and Rural Planning Discipline

MURP 1st Year, Term-I Examination, Session 2025-2026

Course No. 0413 04 BA 5159

Full Title of Course: Project Planning, Monitoring and Governance

Full Marks: 60

Time: 3 hours

- The figures in the margin indicate full marks.
- Use separate sheet for each section.

Section A

There are **four** questions in this section. Answer any **three** questions.

- Define 'project management' and list five characteristics that classify a project from routine organizational operations. [L2, CLO1] 02
 - Illustrate policy, strategy, plan, program and project with example. [L2, CLO1] 05
 - Often project proposals are asked to link with macro policy and commitments like BDP2100, Perspective Plan 2041, FYP etc. What is the purpose of this? [L3, CLO2] 03
- Define 'Work Breakdown Structure (WBS)' and state its primary purpose in project planning. [L2, CLO5] 03
 - Given the following simplified project data for a community park development: [L5, CLO5]

Activity	Description	Predecessor(s)	Duration (weeks)
A	Site survey	None	2
B	Design approval	A	3
C	Land clearing	A	2
D	Foundation work	B, C	4
E	Landscaping	D	3
F	Final inspection	E	1

- Draw the project network diagram for this project. 02
 - Perform a forward and backward pass to determine the critical path and the total project duration. 03
 - Identify the float for Activity C and explain its scheduling implication. 02
- List the steps of the risk management process as typically presented in project management. [L2, CLO3] 02
 - Explain the difference between 'risk identification' and 'risk assessment.' Why must identification precede assessment? [L4, CLO3] 04
 - Describe what a contingency plan is and how it differs from a fallback plan. [L4, CLO3] 04
 - Identify four common types of contracts used in project procurement. [L3, CLO4] 02
 - Analyze the differences between 'contract administration' and 'contract closure.' Why is each phase critical to protecting the interests of the procuring entity? [L4, CLO4] 04
 - A contractor submits a proposal that is technically superior but 15% above the estimated budget. Assess the arguments for and against awarding the contract to this bidder under the Public Procurement Rules of 2008. [L4, CLO5] 04

Section B

There are **four** questions in this section. Answer any **three** questions.

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|----|-----|---|----|
| 1. | (a) | Highlight the roles and functions of the NEC, ECNEC, and the Bangladesh Planning Commission in the project planning process. [L4, CLO1] | 06 |
| | (b) | Analyze the types of organizations involved in formulating development projects in Bangladesh and their inter-organizational coordination challenges. [L4, CLO5] | 04 |
| 2. | (a) | What is a logical framework matrix (Logframe)? [L1, CLO1] | 02 |
| | (b) | Khulna City Corporation is intending to develop a landfill site as part of their Solid Waste Management schemes. Could you prepare a complete Logframe for an investment project for a Solid Waste Landfill Site Development in Khulna. [L6, CLO2] | 05 |
| | (c) | For the M&E function for the government projects (as above) which actors will play role and how? [L3, CLO3] | 03 |
| 3. | (a) | Explain the role of Key Performance Indicators (KPIs) and dashboards in monitoring project performance. [L4, CLO4] | 05 |
| | (b) | Evaluate the relationship between monitoring and evaluation (M&E) and explain how impact evaluation contributes to evidence-based decision-making in development projects. [L4, CLO4] | 05 |
| 4. | (a) | Differentiate between Base Line Survey and End-Line Survey while addressing when, who and how? [L3, CLO3] | 05 |
| | (b) | A local NGO decides to develop a piped water supply for a coastal community who are affected by severe salinity. Being an M&E officer you have been requested to design the Base-line and End-line. What data (indicator, variables) you'll collect during Base-line and End-line? [L6, CLO4] | 05 |

Khulna University, Khulna
Urban and Rural Planning Discipline
MURP 1st Year, Term-I Examination, Session 2025-2026
Course No. 0731 04 URP 5107
Full Title of Course: Research Philosophy and Design
Full Marks: 60 Time: 3 hours

- The figures in the margin indicate full marks.
- Use separate sheet for each section.

Section A

There are **four** questions in this section. Answer any **three** questions.

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|----|-----|--|----|
| 1. | (a) | What is a research paradigm, and how does it influence the design of research? [L2, CLO1] | 03 |
| | (b) | How do positivism and interpretivism differ in their approach to social research? [L3, CLO1] | 04 |
| | (c) | Why is subjectivity considered an essential aspect in interpretive and constructivist research? [L2, CLO1] | 03 |
| 2. | (a) | What are the differences between 'Retroductive' and 'Abductive' theory, and why are these theoretical considerations important in selecting a research strategy? [L4, CLO2] | 05 |
| | (b) | Evaluate the suitability of different ontological and epistemological approaches for studying climate change vulnerability or disaster risk. [L5, CLO2] | 05 |
| 3. | (a) | Critically compare different types of literature reviews used in social science research. [L3, CLO4] | 03 |
| | (b) | To what extent can research ever be politically neutral? Discuss critically. [L3, CLO4] | 03 |
| | (c) | Discuss the importance of reliability and validity in qualitative and quantitative research. [L6, CLO5] | 04 |
| 4. | (a) | What design considerations would you apply in developing a quantitative research study plan or proposal? Discuss how selected design considerations for engaging readers relate to your study and develop a general outline for organizing and presenting the major components of your quantitative research. [L3, CLO3] | 07 |
| | (b) | How far does the emergence of mixed methods research imply the end of paradigm wars? [L3, CLO3] | 03 |

Section B

There are **four** questions in this section. Answer any **three** questions.

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|----|-----|---|----|
| 1. | (a) | What are the five qualitative approaches? Briefly state the primary focus of each. [L4, CLO1] | 05 |
| | (b) | A MURP student wants to explore how displaced communities in a flood-prone rural area make sense of their resettlement experience. Evaluate which qualitative approach is most appropriate and justify your choice. [L5, CLO2] | 05 |
| 2. | (a) | List and briefly discuss the three primary methods of data collection used in social research. [L3, CLO3] | 05 |
| | (b) | A researcher is exploring the residents' perceptions of urban infrastructure in a low-income neighborhood located in Khalishpur areas of Khulna. Apply your knowledge to recommend and justify a suitable data collection method for this study. [L4, CLO3] | 05 |
| 3. | (a) | Identify and briefly describe the four types of interviews used in social research. [L3, CLO3] | 05 |
| | (b) | Analyze the strengths and limitations of unstructured interviews as a data collection tool for studying urban planning issues. [L4, CLO5] | 05 |
| 4. | (a) | Develop a research proposal on the subject of your choice. The following elements or sections must be present in the proposal: title, a short problem statement, objectives and research questions, methodology and probable outcomes. [L6, CLO3] | 10 |

Khulna University, Khulna

Urban and Rural Planning Discipline

MURP 1st Year, Term-I Examination, Session 2025-2026

Course No. 0731 04 URP 5101

Full Title of Course: Planning Theory and Practice

Full Marks: 60 Time: 3 hours

- The figures in the margin indicate full marks.
- Use separate sheet for each section.

Section A

There are **four** questions in this section. Answer any **three** questions.

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|----|-----|--|----|
| 1. | (a) | Why Keynes challenged the neoclassical assumption of self-correcting markets? [L2, CLO1] | 03 |
| | (b) | A city is experiencing recession, falling private investment, delayed housing construction, and rising unemployment. Using a Keynesian planning perspective, propose a countercyclical urban investment strategy. [L6, CLO3] | 07 |
| 2. | (a) | What are the limitations of classical economic rationality? [L4, CLO1] | 04 |
| | (b) | A private redevelopment project replaces an old working-class neighbourhood with high-end apartments and commercial space. Analyse the case through a Marxist planning lens. [L4, CLO3] | 06 |
| 3. | (a) | Explain the main ideas of Marxism and their relevance to urban planning. [L2, CLO3] | 04 |
| | (b) | A private redevelopment project replaces an old working-class neighbourhood with high-end apartments and commercial space. Analyse the case through a Marxist planning lens. [L4, CLO4] | 06 |
| 4. | (a) | Explain the relevance of post-structuralism for planning theory. [L3, CLO2] | 04 |
| | (b) | A smart-city plan describes informal settlements as “unproductive”, “risky” and “obstacles to competitiveness”. Interpret this statement from post-structural lens. [L5, CLO4] | 06 |

Section B

There are **four** questions in this section. Answer any **three** questions.

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|----|-----|--|----|
| 1. | (a) | Why is it misleading to reduce truth in planning to only one theory of truth? [L3, CLO1] | 04 |
| | (b) | Critically discuss Habermas and Foucault as two contrasting approaches to truth in planning. Support your answer with relevant examples. [L5, CLO3] | 06 |
| 2. | (a) | Describe Kuhn’s concept of a paradigm and describe the major phases of paradigm change relevant to planning theory. [L2, CLO1] | 04 |
| | (b) | Analyse whether contemporary planning theory is better understood as being in a paradigm crisis or as moving towards plural planning. Use examples from contemporary planning practice to support your argument. [L4, CLO3] | 06 |
| 3. | (a) | Describe the five elements of Allmendinger’s post-positivist typology of planning theory. In your answer, explain each element with relevant examples from planning theory or contemporary planning practice. [L3, CLO2] | 04 |
| | (b) | Apply Allmendinger’s typology to a contemporary planning issue and examine how different theoretical influences may shape the way planners define the problem, justify action, and select planning interventions. [L5, CLO4] | 06 |
| 4. | (a) | Critically examine how colonial planning legacies limit participatory and context-sensitive planning in Bangladesh. [L5, CLO4] | 06 |
| | (b) | How could collaborative or conflict-management approaches help address these limitations? [L5, CLO4] | 04 |