

Title of the Course : 0731 01 Arch 3231
Course No: Landscape Architecture

Full Marks : 60
Time : 03 Hours

* Figures in the right margin indicate full marks.

Section-A

There are **four (04)** questions in this section. Answer any **three (03)** questions.

- Q.1 Give your opinion how Japanese Zen garden design connects human experience and ecological systems through philosophy, emotion, and cultural expression. [L5; CLO 1] **10**
- Q.2 Analyze how site analysis and behavioral mapping contribute to understanding landscape architecture and its interdisciplinary relationships, with an example. [L4; CLO 2] **10**
- Q.3 Evaluate how Landscape Urbanism transforms the relationship between architecture, landscape, and urban form, with examples and sketches. [L5; CLO 4] **10**
- Q.4 Write short notes with necessary sketches on: **5X2=10**
a) Socio-Spatial Dynamics of site analysis. [L2; CLO 3]
b) Elements of Landscape Design. [L2; CLO 3]

Section-B

There are **four (04)** questions in this section. Answer any **three (03)** questions.

- Q.1 Define landscape elements and classify them based on their structure and function. Explain with suitable examples and neat sketches. [L1; CLO 2] **10**
- Q.2 Analyze how landscape design can balance human needs and natural systems in an outdoor environment. [L4; CLO 4] **10**
- Q.3 Demonstrate how water can be incorporated as a landscape element in a design project, considering the essential principles and considerations of water-edge design. [L3; CLO 3] **10**
- Q.4 Explain how landscape ecology supports planning and design decision-making in a landscape project. Describe with appropriate examples and neat sketches. [L2; CLO 3] **10**

Title of the Course : City Planning in a Global Perspective
Course No: URP 3243

Full Marks : 60
Time : 03 Hours

* Figures in the right margin indicate full marks.

Section-A

There are **four (04)** questions in this section. Answer any **three (03)** questions.

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| Q.1 | Explain how climatic conditions and philosophical principles influenced the planning and layout of Greek cities, and illustrate your explanation with a relevant example. | 10 |
| Q.2 | Discuss how <i>Siena</i> exemplifies medieval urban design through its central public space, evaluating its effectiveness in fostering civic identity | 10 |
| Q.3 | Critically discuss the role of individual creativity during the Renaissance in transforming art, architecture and town planning. | 10 |
| Q.4 | Explain the initiatives of <i>Claude Nicolas Ledoux</i> and <i>Robert Owen</i> in designing industrial cities, highlighting how their approaches aimed to improve the living and working environment for industrial workers. | 10 |

Section-B

There are **four (04)** questions in this section. Answer any **three (03)** questions.

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| Q.1 | Discuss the effectiveness of Traditional Neighbourhood Design (TND) in fostering high-density, mixed-use communities, and evaluate its impact on social interaction, walkability, and urban sustainability using examples. | 10 |
| Q.2 | Illustrate the strategies of Natural access control, and Maintenance within the framework of Crime Prevention Through Environmental Design (CPTED) using diagrams to explain how these strategies enhance security and social control. | 10 |
| Q.3 | Explain the concept of Transit-Oriented Development (TOD) as a high-density, mixed-use urban area designed to maximize access to public transport, and illustrate it with a real-world example. | 10 |
| Q.4 | Analyze the contributions of Conservationists and the Park Movement to the development of modern ecological thinking, and discuss how their design principles influenced landscape and urban planning, with examples. | 10 |

Title of the Course : **Sustainability and Architecture**
 Course No: **0731 01 Arch 3203**

Full Marks : 60
 Time : 03 Hours

* Figures in the right margin indicate full marks.

Section-A

There are **four (04)** questions in this section. Answer any **three (03)** questions.

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| Q.1 | The concept of Sustainable Architecture emerged as a response to multiple crises in the built environment. Analyze the major problems that initiated this movement and discuss the defining characteristics that distinguish Sustainable Architecture from conventional architectural practice. [L4; CLO 2] | 10 |
| Q.2 | Evaluate the statement: "Every sustainable building can be green, but not every green building is truly sustainable." Discuss with appropriate architectural examples. [L5; CLO 3] | 10 |
| Q.3 | a) Summarize the triple 'U' problems explained by Rob Roggema? [L2; CLO 2]
b) How strategies like 'fixing the future' and 'indulge the future' can deal with triple 'U' problems and ensure Sustainable Urbanism? [L3; CLO 4] | 03

07 |
| Q.4 | Answer any TWO from the following- [L2; CLO 1]
i. Compare between Biophilic and Bio-mimicry approach

ii. Compare between water-efficient and energy-efficient building approach

iii. Compare between green building and sustainable building | 5X2=10 |

Section-B

There are **four (04)** questions in this section. Answer any **three (03)** questions.

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| Q.1 | a) What is meant by "minimal negative impact" in sustainable architecture? [L1; CLO 1]
b) Explain the key concepts of sustainable architecture, and how do they contribute to environmental, social, and economic sustainability? [L2; CLO 2] | 04

06 |
| Q.2 | Redefine the concept of sustainability through the architectural philosophy of Muzharul Islam, and critically examine how another Bangladeshi architect, responsive to the context of Bengal, interprets and applies sustainability in his architectural practice. [L6; CLO 4] | 10 |
| Q.3 | Justify your position on the statement "Impermanence is our identity" in relation to the geographical and environmental conditions of the Bengal Delta. [L5; CLO 2] | 10 |
| Q.4 | If a university academic building were to be designed in Khulna, how would environmental, economic, and social considerations be integrated into its overall design? [L6; CLO 3] | 10 |

Title of the Course : **Structure-IV**

Full Marks : 60

Course No: **0732 01 CE 3251**

Time : 03 Hours

* Figures in the right margin indicate full marks.

Section-AThere are **four (04)** questions in this section. Answer any **three (03)** questions.

- Q.1 a) Define the term lateral load and analyze how lateral load affect the stability, deformation, and comfort for a high-rise building. [L1; CLO 1] 05
- b) A high-rise building is proposed in a wind- and earthquake-prone region. Evaluate how building form, height, and structural arrangement may influence its lateral stability and overall performance. [L5; CLO 1] 05
- Q.2 a) Explain how wind velocity changes with height above ground level and interpret its impact on a high-rise buildings. [L5; CLO 1] 03
- b) Explain the vortex shedding phenomenon with sketches and analyze its effect on slender high-rise structures. [L5; CLO 2] 03
- c) Classify the different types of seismic waves generated during earthquakes and explain their characteristics. [L4; CLO 2] 04
- Q.3 a) Which lateral-load-resisting system would be more suitable for a high-rise building requiring large column-free interior spaces: Core and Outrigger, Diagrid, or Tube-in-Tube? Justify your answer conceptually. [L5; CLO 2] 04
- b) Write short notes on (**any two**): 06
 i)P-delta effect, ii)Seismic Resonance, iii)Tunes Mass Dampers(TMD).
 [L5; CLO 2]
- Q.4 a) Compare structural retrofit and strengthening techniques with proper examples. [L4; CLO 4] 05
- b) When retrofitting a culturally or architecturally significant building, how should architects evaluate the balance between preserving design integrity and improving structural safety? [L5; CLO 4] 05

Section-BThere are **four (04)** questions in this section. Answer any **three (03)** questions.

- Q.1 a) Explain how a typical arch behaves under applied load. [L4; CLO 3] 05
- b) What factors should an architect consider for the shell structure design? [L4; CLO 4] 05
- Q.2 a) Differentiate between a riveted joint and a welded joint in steel structures. [L5; CLO 3] 04
- b) As an architect, how would you select the type of joints in the design of a steel structure? Explain your considerations with a neat sketch. [L5; CLO 3] 06
- Q.3 a) Draw the plan of a standard soak pit. What is the function of a soak pit? [L6; CLO 4] 06
- b) If you are the owner of a building with septic tank system, then what should you consider for the maintenance and desludging of a septic tank? [L5; CLO 4] 04
- Q.4 a) What is the role of foundation in a building? [L2; CLO 3] 02
- b) Draw a typical plan and section of mat foundation. [L3; CLO 3] 03
- c) Suppose, you are going to construct a 20-storey building in a soft soil consisting of mostly silt upto 80 feet in depth from the top of the soil layer. What type of foundation would you choose? Justify your answer with proper reasons. [L5; CLO 4] 05

Title of the Course : History of Architecture IV
Course No: 0731 01 Arch 3205

Full Marks : 60
Time : 03 Hours

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Section-AThere are *four (04)* questions in this section. Answer any *three (03)* questions.

- Q.1 "Form follows function" --- evaluate this slogan in the context of the first half of 20th century European and American architectural practice. Give appropriate examples. [L5; CLO 1] 10
- Q.2 Determine the shortcomings of Modernism and International Style in architecture that historically fueled the rise of Post-modernism after World War II. [L5; CLO 3] 10
- Q.3 Examine the major strengths of Contemporary Architecture and explain how they satisfy the needs of the society of 21st century. [L4; CLO 4] 10
- Q.4 a) Analyse Deconstructivism in Architecture with appropriate examples? [L4; CLO 2] 05
b) "Concepts of Regionalism and Sustainability in architecture are mutually inclusive." Justify with examples. [L5; CLO 5] 05

Section-BThere are *four (04)* questions in this section. Answer any *three (03)* questions.

- Q.1 Evaluate the roles of socio-political, technological, and economical factors behind the development of modern architecture in South Asia during the 20th century. [L5; CLO 3] 10
- Q.2 Critically appreciate the contributions of foreign architects (such as Louis Kahn or Le Corbusier) to the modern movement in the Indian subcontinent. How did their philosophies interact with local environmental and cultural conditions? [L5; CLO 4] 10
- Q.3 Examine the influential factors behind the rise of contemporary architecture in the tropical region, specifically focusing on the precedents in Sri Lanka. Discuss how climate responsiveness became a primary driver for regional identity. [L4; CLO 5] 10
- Q.4 Trace the influence of modern and contemporary architectural developments in Bangladesh. Discuss how local architects have transitioned from "Institutional Modernism" to a more contextualized contemporary practice. [L4; CLO 2] 10

Title of the Course : **Energy-Efficient Design**
Course No: **Arch 3241**

Full Marks : 60
Time : 03 Hours

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Section-A

There are **four (04)** questions in this section. Answer any **three (03)** questions.

- Q.1 a) Why should architects have to be informed about energy basics? **04**
b) Differentiate between site energy and source energy, considering the Khulna University area as your site reference. **06**
- Q.2 a) "The building industry is responsible for a large portion of carbon emissions." Explain the statement with data and evidence. **05**
b) Draw the energy production chain of a coal-based power plant by identifying the components of environmental threats. **05**
- Q.3 'Energy consumption is by no means an indicator of the degree of comfort in buildings.' Evaluate the statement by analyzing an indoor space you frequently use. **10**
- Q.4 Elaborate on four aspects of comfort regarding their relationship with building energy consumption. **10**

Section-B

There are **four (04)** questions in this section. Answer any **three (03)** questions.

- Q.1 "Energy efficiency in architectural design now-a-days has become a very critical issue throughout the world irrespective of climate, culture, economy and politics." Justify the merit of this statement with examples. **10**
- Q.2 Differentiate the energy usage pattern between our *contemporary urban* and *traditional rural* residential environment. Also identify the reasons behind these differential usage patterns. **05+05=10**
- Q.3 "Population growth and energy consumption are strictly proportional." Do you agree with the statement? Justify your position with real life examples. **10**
- Q.4 Determine the governmental regulatory measures that we can adopt to control our energy consumption pattern in different urban building typologies and thereby ensure a significant degree of energy efficiency. **10**