

- c) The assertion is correct, but the reason is incorrect. d) Both the assertion and reason are incorrect

4. Matching the following item with multiple choice code

CO3 [K₂]

List I	List II
A) Determine fire classifications for buildings	I) Designate fire zones and hazard levels
B) Install firefighting and extinguishing systems	II) Plan evacuation routes and safety measures
C) Define means of escape and alarms	III) Install smoke detectors and sprinklers
D) Assess space requirements for different building types	IV) Evaluate structural integrity and fire resistance

- a) A - IV, B - II, C - III, D - I b) A - I, B - III, C - II, D - IV
 c) A - II, B - IV, C - III, D - I d) A - III, B - I, C - IV, D - II

5. Which standard is commonly used to assess the fire safety of buildings?

CO3 [K₁]

- a) ISO 9001 b) NFPA 101
 c) ANSI/ASQ Z1.4 d) OSHA 191

6. Choose the correct statements about spatial synthesis techniques in functional planning:

CO2 [K₂]

- I. They help visualize spatial relationships.
 II. They include methods like bubble diagrams and Gantt charts.
 III. They are primarily used for aesthetic planning.
 IV. They do not contribute to optimizing space utilization.

- a) I, II, and IV b) I and II
 c) II and III d) I and IV

7. Assertion: Maintenance standards are essential for ensuring the longevity and performance of building systems.

CO5 [K₂]

Reason: Defined maintenance standards outline procedures for routine and contingency maintenance, ensuring proper upkeep and functionality of building assets.

- a) Both assertion and reason are correct, and the reason explains the assertion. b) Both assertion and reason are correct, but the reason does not explain the assertion
 c) The assertion is correct, but the reason is incorrect. d) Both the assertion and reason are incorrect

8. Choose the correct statements about vertical circulation systems in buildings:

CO4 [K₂]

- I. They facilitate movement between floors.
 II. They include elevators, escalators, and staircases.
 III. They do not impact building accessibility.
 IV. They are primarily used for aesthetic purposes.

- a) I and II b) II and III

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|-----|--|----|-----|-------------------|
| 24. | Discuss the importance of HVAC systems in buildings, including their role in providing thermal comfort and indoor air quality. | 05 | CO4 | [K ₂] |
| 25. | Evaluate the role of maintenance standards and maintenance contracts in ensuring the long-term performance and sustainability of building assets. | 05 | CO5 | [K ₃] |
| 26. | Discuss the strategies for integrating scheduled and contingency maintenance practices into a comprehensive maintenance management plan, emphasizing proactive maintenance strategies to enhance building resilience and sustainability. | 05 | CO5 | [K ₃] |

Answer any FOUR Questions
PART D (4 x 10 = 40 Marks)

- | | | | | |
|-----|--|----|-----|-------------------|
| 27. | Analyze the key components of urban forms in urban planning, including land use patterns, building densities, open spaces, transportation networks, and infrastructure. Evaluate how these components influence the functionality, aesthetics, and sustainability of urban environments. | 10 | CO1 | [K ₃] |
| 28. | Evaluate the effectiveness of existing development control guidelines in regulating urban development. Conduct a comparative analysis of development control policies in two different cities or regions, assessing their impact on land use patterns, building design, public spaces, and overall urban quality. Propose recommendations for enhancing their effectiveness in promoting sustainable and well-functioning urban environments | 10 | CO2 | [K ₄] |
| 29. | Analyze the space requirements and spatial relationships for residential, office, and hospital buildings concerning fire resistance. Discuss how building layouts, occupancy factors, egress routes, compartmentalization, and fire-rated materials contribute to fire safety. | 10 | CO3 | [K ₃] |
| 30. | Develop an integrated engineering plan for a sustainable building project, incorporating HVAC systems, plumbing installations, electrical systems, and vertical circulation designs. Consider energy efficiency, indoor air quality, water conservation, renewable energy sources, and occupant comfort in your engineering design. | 10 | CO4 | [K ₄] |
| 31. | Describe how Management Information Systems (MIS) aid in building maintenance and economic decision-making through data collection, cost tracking, and analysis. Highlight the benefits of MIS for cost-effective maintenance strategies and improved decision-making in building management. | 10 | CO5 | [K ₃] |
