

SECTION A

PART I: Multiple Choice Questions (30 marks)

Choose the correct answer and write down the letter of your chosen answer in the Answer Booklet against the question number e.g. 31 (d). Each question carries ONE mark. Any double writing, smudgy answers or writing more than one choice shall not be evaluated.

1. The agency mandated to formulate policies related to housing and function as a Tenancy Authority in Bhutan is the:
 - a) National Housing Development Corporation Limited
 - b) Local Governments
 - c) Department of Human Settlement
 - d) National Pension and Provident Fund.
2. For adherence to approved land use in Bhutan, which of the following permit is required:
 - a) Building Permit
 - b) Notice from Local Government
 - c) Planning Permit
 - d) None of the above.
3. As per the Bhutan Building Regulation, an area of mezzanine floor shall not exceed:
 - a) 30% of the plinth area
 - b) 45% of the plinth area
 - c) 25% of the plinth area
 - d) 20% of the plinth area
4. Which of the following is the Planning Model/Theory advocated by Charles E. Lindblom?
 - a) Synoptic planning
 - b) Advocacy planning
 - c) Incremental planning
 - d) Transactive planning
5. As per the Bhutan Building Regulation 2018, the maximum allowable floor in rural areas is:
 - a) Two plus attic and Jamthog
 - b) Two plus Jamthog
 - c) Three plus Jamthog
 - d) Three plus attic and Jamthog
6. The formula for calculating the Indicative Contribution Ratio (ICR) for land pooling is:
 - a) $ICR = \frac{\text{Infrastructure requirement (IR)} + \text{Area of proposed Reserve Plots (ARP)}}{\text{Area of Contributing Land (ACL)}} \times 100$
 - b) $ICR = \frac{\text{Infrastructure requirement (IR)} + \text{Area of Contributing Land (ACL)}}{\text{Area of proposed Reserve Plots (ARP)}} \times 100$
 - c) $ICR = \frac{\text{Area of proposed Reserve Plots (ARP)} + \text{Area of Contributing Land (ACL)}}{\text{Infrastructure requirement (IR)}} \times 100$
 - d) $ICR = \frac{\text{Area of Contributing Land (ACL)} - \text{Area of proposed Reserve Plots (ARP)}}{\text{Infrastructure requirement (IR)}} \times 100$

7. As per Kevin Lynch, which of the following five elements form the image of a city?
 - a) Paths, Edges, Districts, Nodes & Landmarks
 - b) Paths, Edges, Rivers, Nodes & Landforms
 - c) Paths, Edges, Nodes, Monuments & Landmarks
 - d) Paths, Buildings, Nodes, Monuments & Landmarks
8. The time horizon for a Structure Plan for implementation and review is:
 - a) 30 years and 10 years
 - b) 20 years, and 10 years
 - c) 20 years and 5 years
 - d) 25 years and 5 years
9. The formula to calculate FAR is:
 - a) Gross Floor Area/Total lot size
 - b) Total lot size/ Gross Floor Area
 - c) Total Plinth Area x Gross Floor Area
 - d) Total lot size X Gross Floor area
10. As per the Spatial Planning Standards 2017 of Bhutan, the population density 80-300 pph is considered as:
 - a) Very high
 - b) Low
 - c) Medium
 - d) High
11. In Bhutan, the maximum limit of land pooling usually adopted is :
 - a) 28%
 - b) 32%
 - c) 25%
 - d) 30%
12. Gentrification is a process of urban development in which:
 - a) A city neighborhood changes from low to high value.
 - b) A neighborhood's residents are often displaced.
 - c) There will be rising rents and living costs.
 - d) All of the above.
13. For the National Land Use Plan for Bhutan, for an urban area the:
 - a) Population in primary industry should be less than 50%.
 - b) Population in primary industry should be more than 50%.
 - c) Population in primary industry should be less than 25%.
 - d) Population in primary industry should be more than 25%.
14. Kerbed central island with diameter greater than or equal to 4m and flared approaches to allow multiple entry lanes is a description of:
 - a) Mini Roundabout
 - b) Conventional Roundabout
 - c) Raindrop Roundabout
 - d) None of the above

15. What is the actual distance on ground equivalent to 2cm on a map of scale 1:25,000?
 - a) 1 km
 - b) ½ km
 - c) Quarter of a km
 - d) 50m
16. Under the Spatial Planning Framework, the tiers of spatial plans in Bhutan as per hierarchy are:
 - a) Regional Spatial Plan; National Spatial Plan; Valley Development Plan; and Local Area Plan.
 - b) Action Area Plan; Structure Plan; Local Area Plan; and National Spatial Plan.
 - c) National Spatial Plan; Regional Spatial Plan; Local Spatial Plan; and Action Area Plan.
 - d) National Spatial Plan; Structure Plan; Regional Spatial Plan; and Local Area Plan.
17. As per the Spatial Planning Standards of Bhutan, the parking space requirement for theatres, cinemas, concert halls, dance halls and similar places would be:
 - a) 3 car parking space per 10 fixed seats
 - b) 1 car parking space per 10 fixed seats
 - c) 2 car parking space per 15 fixed seats
 - d) 1 car parking space per 3 fixed seats
18. Buffers of water courses, natural drainage and other sensitive areas shall be categorized as:
 - a) Zones
 - b) Precincts
 - c) Overlays
 - d) Setback
19. What would be the FAR for a plot measuring 50 mx 30 m, has three floors measuring 15 mx10 m each and no restriction on coverage?
 - a) 1
 - b) 0.3
 - c) 0.4
 - d) 3.3
20. Traditional Neighborhood Development (TND) means being able to walk somewhere within:
 - a) 30 minutes
 - b) 45 minutes
 - c) 15 minutes
 - d) 10 minutes
21. An Action Area Plan is:
 - a) Strategic in nature
 - b) Regulatory in nature
 - c) General in nature
 - d) None of the above
22. Which agency decides the type of building color to be adopted in Bhutan?
 - a) Department of Culture
 - b) Thromde
 - c) Dzongkhag
 - d) Department of Human Settlement

23. How many Yenlag Thromdes are there in Bhutan?
- a) 20
 - b) 40
 - c) 4
 - d) 24
24. The Yenlag Thromde for Thimphu is:
- a) Dagala
 - b) Namseling
 - c) Khasadrapchu
 - d) Lingzhi
25. The Yenlag Thromde for Trashigang Dzongkhag is:
- a) Kanglung
 - b) Khaling
 - c) Rangjung
 - d) Yonphula
26. Bhutan has a Spatial Planning Act or Planning Act:
- a) Not sure
 - b) False
 - c) True
 - d) I don't know
27. What would be the area of a neighborhood if it is to be within walk-able distance of 350 m radius?
- a) Approximately 120 acres
 - b) Approximately 96 acres
 - c) Approximately 124 acres
 - d) Approximately 95 acres
28. The City Beautiful Movement that flourished during 1890s and 1900s introduced beatification and monumental grandeur in cities. It also intended to create:
- a) beautiful villages
 - b) awareness on beauty and heritage values
 - c) moral and civic virtue among urban populations
 - d) harmony between nature and infrastructure development
29. _____ is a thoroughfare that is lined with buildings. It has area defined for cars, human circulations and activity:
- a) Street
 - b) Road
 - c) Footpath
 - d) Promenade
30. _____ is an international movement to reform the design of built environment and is about raising quality of life and standard of living by creating better places to live in. It is the revival of our lost art of place making:
- a) New Urbanism
 - b) Contextualism
 - c) City Beautiful
 - d) Rationalism

PART II- Short Answer Questions [20 marks]

This part has 4 Short Answer Questions. Answer ALL the questions. Each question carries 5 marks.

Question 1

- a) What is Land Pooling? **(2 marks)**
- b) What are some of the public facilities and amenities that can be developed with the pooled land? Where necessary elaborate why they are being considered in the land pooling. **(3 marks)**

Question 2

Describe the types of spatial plans in Bhutan. **(5 marks)**

Question 3

Which is the lead agency responsible for urban planning and development of rules and regulations pertaining to it in Bhutan? List down some of the mandates of the Agency? **(5 marks)**

Question 4

What transformation is required in Thimphu to enhance the livability? Describe briefly. **(5 marks)**

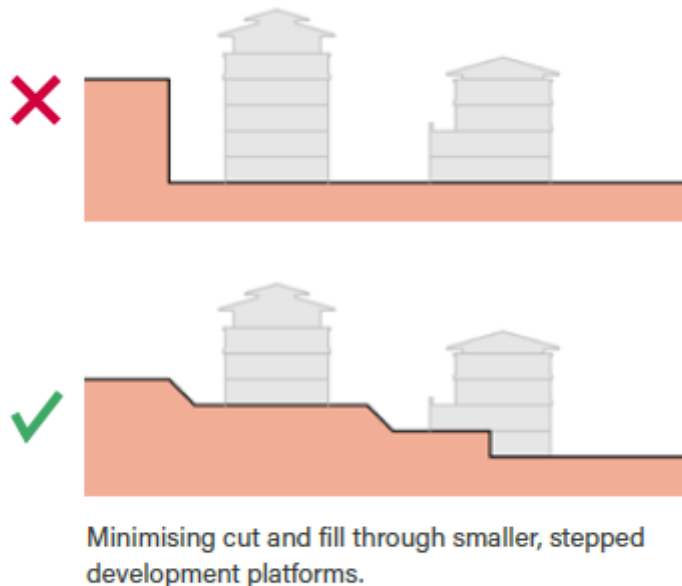
SECTION B: CASE STUDY [50 marks]

Choose either CASE I or CASE II. Each case study carries 50 marks. Mark for each sub-question is indicated in the brackets.

CASE I

Thimphu City Design Code 2024 which is part of the revised Thimphu Structure Plan has been developed by international experts to streamline developmental activities, and designate land uses that will ensure good growth at the right place. In your opinion, as an Urban Planner who has been tasked with the responsibility to review the code, answer the following:

- a) List down five objectives of the Design Code. Describe how these objectives can improve the existing capital city **(15 marks)**
- b) Carry out SWOT analysis of the Design Code. **(15 marks)**
- c) In the concept shown below, list down three pros and cons of both proposals with justification. Which one would you recommend for Thimphu and why? **(15 marks)**



- d) What would be some of the front setback treatments for residential ground floors? **(5 marks)**

CASE II

Samtse town is being proposed to be developed as the 5th Thromde. As an Urban Planner and learning from the experiences of other Thromdes such as Thimphu and Phuentsholing, how would you plan Samtse Thromde.

The proposals must include but not be limited to the following:

a) Analyses **(15 marks)**

- ✓ Study of existing scenario;
- ✓ Identification of issues; and
- ✓ SWOT analysis.

b) Visioning exercise and planning principles to be adopted. **(10 marks)**

c) Proposals to address the problems. Lay out at least five strategies with simple sketches to illustrate your ideas. **(25 marks)**

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