

**PAPER III: SUBJECT SPECIALISATION PAPER FOR URBAN PLANNING**

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**ROYAL CIVIL SERVICE COMMISSION**

**BHUTAN CIVIL SERVICE EXAMINATION (BCSE) 2024**

**EXAMINATION CATEGORY: TECHNICAL**

**PAPER III: SUBJECT SPECIALISATION PAPER FOR URBAN PLANNING**

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<b>Date</b>	: October 5, 2024
<b>Total Marks</b>	: 100
<b>Writing Time</b>	: 150 minutes (2.5 hours)
<b>Reading Time</b>	: 15 minutes (prior to writing time)

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**GENERAL INSTRUCTIONS:**

1. Write your Registration Number clearly and correctly on the Answer Booklet.
2. The first 15 minutes is to check the number of pages of the Question Paper, printing errors, clarify doubts and to read the instructions. You are NOT permitted to write during this time.
3. This paper consists of **TWO SECTIONS**, namely SECTION A & SECTION B:
  - **SECTION A** has two parts: Part I - 30 Multiple Choice Questions  
Part II - 4 Short Answer QuestionsAll questions under SECTION A are COMPULSORY.
- **SECTION B** consists of two Case Studies. Choose only **ONE** case study and answer the questions of your choice.
4. All answers should be written on the Answer Booklet provided to you. Candidates are not allowed to write anything on the question paper. If required, ask for additional Answer Booklet.
5. All answers should be written with correct numbering of Section, Part and Question Number in the Answer Booklet provided to you. Note that any answer written without indicating the Section, Part and Question Number will NOT be evaluated and no marks will be awarded.
6. Begin each Section and Part on a fresh page of the Answer Booklet.
7. You are not permitted to tear off any sheet(s) of the Answer Booklet as well as the Question Paper.
8. Use of any other paper including paper for rough work is not permitted.
9. **You must hand over the Answer Booklet to the Invigilator before leaving the examination hall.**
10. This paper has **7 printed pages**, including this instruction page.

**GOOD LUCK!**

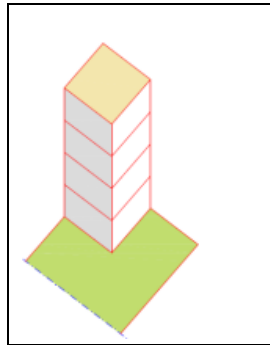
**SECTION A**

**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 responsible for formulating policies related to housing and functioning as a Tenancy Authority in Bhutan is the:
  - a) National Housing Development Corporation Limited
  - b) Department of Human Settlement
  - c) Tenancy unit under each Local Government
  - d) National Pension and Provident Fund
  
2. 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)  $ICR = \frac{\text{Area of Contributing Land (ACL)} - \text{Area of proposed Reserve Plots (ARP)}}{\text{Infrastructure requirement (IR)}} \times 100$
  
3. "Setback" in a building can be defined as:
  - A the distance between the building wall and the roof eave board
  - B the distance between the plot boundary and building
  - C the distance between two or more buildings
  - D the distance between the building wall and the plinth protection
  - a) A
  - b) B and D
  - c) B and C
  - d) D
  
4. The maximum allowable floor in rural areas is:
  - a) One
  - b) Two
  - c) Three
  - d) Four

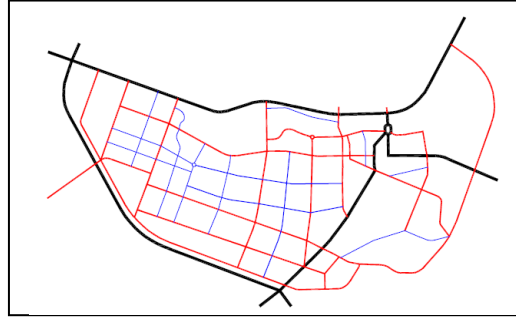
5. Which document guides the urban planners in assessing the building height, setback, and the coverage while preparing a spatial plan in rural areas in Bhutan?
- National Human Settlement Policy
  - Land Pooling and Readjustment Regulations
  - Bhutan Building Regulations
  - Construction Industry Policy
6. How many Dzongkhag and Yenlag Thromdes are there?
- 40 Dzongkhag Thromdes and 40 Yenlag Thromdes
  - 20 Dzongkhag Thromdes and 20 Yenlag Thromdes
  - 4 Dzongkhag Thromdes and 20 Yenlag Thromdes
  - 64 Dzongkhag Thromdes and 4 Yenlag Thromdes
7. The time horizon for a Local Area Plan for implementation and review is:
- 10 years and 8 years respectively
  - 20 years, and 10 years respectively
  - 20 years and 5 years respectively
  - 10 years and 5 years respectively
8. The FAR and coverage for the building in the figure below will be:
- 1 and 25%
  - 1 and 50%
  - 0.5 and 100%
  - 1 and 200%



9. Buffers of water courses, natural drainage and other sensitive areas shall be categorized as:
- Setback
  - Precincts
  - Overlays
  - Zones
10. As per the Spatial Planning Standards 2017 of Bhutan, the population density 80-300 pph is considered as:
- Very high
  - Low
  - Medium
  - High

11. In the figure below, the road network in blue is classified as:

- a) Tertiary road
- b) Primary road
- c) Secondary road
- d) Access road



12. “Human Scale” is a principle of which of the following urban planning theory:

- a) Smart Growth
- b) Intelligent Urbanism
- c) Eco City Model
- d) New Urbanism

13. Who is the author of the award-winning book “A Well Tempered City”?

- a) Ann Rand
- b) Le Corbusier
- c) Jonathan F.P.Rose
- d) Ebenezer Howard

14. The formula to calculate FAR is:

- a) Total lot size X Gross Floor area
- b) Gross Floor Area/Total lot size
- c) Total lot size/ Gross Floor Area
- d) Total Plinth Area x Gross Floor Area

15. The hierarchical tiers of spatial plans in Bhutan as per the Spatial Planning Framework are:

- a) Action Area Plan; Structure Plan; Local Area Plan; and National Spatial Plan
- b) National Spatial Plan; Structure Plan; Regional Spatial Plan; and Local Area Plan
- c) Regional Spatial Plan; National Spatial Plan; Valley Development Plan; and Local Area Plan
- d) National Spatial Plan; Regional Spatial Plan; Local Spatial Plan; and Action Area Plan

16. What would be the FAR for a plot measuring 30mx20m, has one floor measuring 15mx10 m each and no restriction on coverage?

- a) 1
- b) 4
- c) 0.25
- d) 1.5

17. The total land area of Bhutan is:

- a) 37,500 sq.km
- b) 37,252 sq.km
- c) 38,494 sq.km
- d) 38,394 sq.km

18. The target scale of maps for a Local Area Plan in Bhutan is:
- 1:2500
  - 1:5000
  - 1:500
  - 1:10000
19. The founder of the Garden City Movement is:
- Raymond Unwin
  - Ebenezer Howard
  - Henry George
  - Edward Bellamy
20. In Bhutan, the maximum limit of land pooling is:
- 25%
  - 40%
  - 28%
  - 30%
21. The Local Spatial Plans comprise:
- National Spatial Plan, Regional Spatial Plan, and Structure Plan
  - Action Area Plan and National Spatial Plan
  - Valley Development Plan and Regional Spatial Plan
  - Valley Development Plan, Structure Plan, and Local Area Plan
22. The National Housing Policy of Bhutan aims to achieve the following vision:
- Promote livability
  - Increase housing stock
  - Promote community vitality
  - Enhanced human dignity through safe and affordable housing for all citizens
23. The vision of the Comprehensive National Development Plan for Bhutan 2030 is:
- Promote regionally balanced development and reduction of disparity between urban and rural areas
  - Promote housing development and regionally balanced development
  - Control rural-urban migration
  - Promote smart cities
24. For the National Land Use Plan for Bhutan, for an urban area the:
- Population in primary industry should be more than 50%
  - Population in primary industry should be less than 25%
  - Population in primary industry should be less than 50%
  - Population in primary industry should be more than 25%
25. The percentage of urban population of Bhutan in 2017 was:
- 41%
  - 35.7%
  - 37.8%
  - 39.3%

26. Application of proceeds in Land Pooling means:
- Application to the local government for construction
  - The proceeds of the sale of a reserve plot or residual land
  - Building Tax
  - Building and Planning Permit
27. One or more areas where common land uses and activities are anticipated are called:
- Zones
  - Overlays
  - Community
  - Land Use Plans
28. Distance to be kept from landfills is an example of:
- Overlays
  - Zones
  - Precinct
  - Protected areas
29. As per the Spatial Planning Standards 2017, for new development or extension of existing settlement, the land allocation (sqm/pp) required for parking:
- 1.5
  - 2
  - 2.5
  - 0.5
30. Gentrification is a process of urban development in which:
- A city neighborhood changes from low to high value
  - A city neighborhood changes from high to low value
  - There will be low rents and living costs
  - All of the above.

**PART II- Short Answer Questions [20 marks]**

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

- The Thimphu Structure Plan 2023-2048 proposes Thimphu to be developed as a **Regenerative** and **Distributive** Thimphu. Give two examples each for both concepts. **(5 marks)**
- What are the different land mobilization techniques adopted in Bhutan for urban development? Describe briefly. **(5 marks)**
- List down five components/principles of a resilient city. **(5 marks)**
- List down any five principles of Smart Growth. **(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:**

The first ever mindfulness city in the world is being planned in Gelephu. The city is expected to integrate cultural promotion, mindfulness, and economic development among others. You have been recruited as the Lead Planner to plan the city.

Explain some of the concepts/proposals, and the implementation framework that you will adopt for the city. The proposals must include but not be limited to the following:

- a) Analyses (10 marks)
- b) Visioning exercise and planning principles to be adopted (10 marks)
- c) Concepts/ Proposals for the city (15 marks)
- d) Implementation Framework (10 marks)
- e) Sketches (5 marks)

Use simple sketches to illustrate your ideas.

**CASE II:**

Thimphu is the most populated city in Bhutan. Despite continuous interventions, the city still lacks the desired liveable quality of a capital city. You have been tasked to review the issues and come up with strategies to improve the image of the city and ensure that it becomes affordable for all sections of the society. Describe some of the strategies/interventions you would propose.

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

- a) Analyses (10 marks)
- b) Visioning exercise and planning principles to be adopted (10 marks)
- c) Proposals to address the problems. Lay out at least three strategies with simple sketches to illustrate your ideas (30 marks)

**TASHI DELEK**