

**ROYAL CIVIL SERVICE COMMISSION**  
**BHUTAN CIVIL SERVICE EXAMINATION (BCSE) 2015**  
**EXAMINATION CATEGORY: TECHNICAL**

**PAPER III: SUBJECT SPECIALIZATION PAPER for *Urban Planning***

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<b>Date</b>	: 11 October 2015
<b>Total Marks</b>	: 100
<b>Examination Time</b>	: 150 minutes (2.5 hours)
<b>Reading Time</b>	: 15 Minutes (prior to examination time)

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**GENERAL INSTRUCTIONS:**

1. Write your Roll Number clearly and correctly on the Answer Booklet.
2. The first 15 minutes is being provided to check the number of pages of 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 and SECTION B:
  - **SECTION A** has two parts: Part I - 30 Multiple-Choice Questions  
Part II - 4 Short Answer Questions  
All questions under SECTION A are COMPULSORY.
  - **SECTION B** consists of two Case Studies. Choose only **ONE** case study and answer the questions under your choice.
4. 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 any or correct Section, Part and Question Number will NOT be evaluated and no marks would be awarded.
5. Begin each Section and Part in a fresh page of the Answer Booklet.
6. You are not permitted to tear off any sheet(s) of the Answer Booklet as well as the Question Paper.
7. Use of any other paper including paper for rough work is not permitted.
8. You are required to hand over the Answer Booklet to the Invigilator before leaving the examination hall.
9. This paper has **13** printed pages in all, 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 the correct answer chosen in the Answer Booklet against the question number. E.g. 31 (c). Each question carries ONE mark. Any double writing, smudgy answers or writing more than one choice shall not be evaluated.**

1. Bhutan has a Spatial Planning Act or Planning Act.
  - a) Not sure
  - b) False
  - c) True
  - d) I don't know
  
2. Bhutan has National Land-use Plan.
  - a) True
  - b) Not sure
  - c) I don't know
  - d) False
  
3. Which of the following Agency is responsible for urban planning and development?
  - a) National Land Commission
  - b) Ministry of Home and Cultural Affairs
  - c) Ministry of Labor and Human Resources
  - d) Ministry of Works and Human Settlement
  
4. The Parliament of Bhutan recently declared two types of Thromdes. They are
  - a) Dzongkhag Thromde A and Dzongkhag Thromde B
  - b) Dzongkhag Thromde and Yenlag Thromde
  - c) Gyelyong Thromde and Dzongkhag Thromde
  - d) Dzongkhag Thromde and Gewog Thromde
  
5. Which of the following is not Urbanization?
  - a) The movement of people from rural to urban areas with population growth equating to urban migration.
  - b) The growth of cities into rural areas.
  - c) The growth of cities and the transformation of society from agrarian to urban.
  - d) The decrease in population due to rural-urban migration

6. Which amongst the following legislations is least relevant to urban planning?
- The Child Protection Act
  - The Land Act 2007
  - The Local Government Act 2009
  - The Road Act 2013 (XXXXXX)
7. The minimum plot size in potential growth areas of Thromde as per the LG Act 2009 shall be \_\_\_\_\_ whereas in areas where local area plans exist, it shall be as per the size determined by the approved local area plans.
- 10 decimal
  - 13 decimal
  - 11 decimal
  - 25 decimal
8. As per the Land Pooling Rules 2009, the maximum land pooling contribution allowed is
- 30%
  - 25%
  - 70%
  - 20%
9. Unlike land pooling technique of planning, the \_\_\_\_\_ uses the provision of infrastructure as a mechanism to guide urban development?
- Guided Land Readjustment
  - Land Acquisition Guided Development
  - Guided Land Distribution Development
  - Guided Land Development
10. Floor Area Ratio is the ratio of
- Total floor area to Total plot area
  - Total plot area to Total floor area
  - Plinth area to site area
  - Site area to plinth area
11. What would be the building height if Floor Area Ratio allowed is 1 with 50% plot coverage?
- Four stories
  - Two stories

- c) Three stories
- d) One storey

12. Which urban planning model does the illustration on the right show?



- a) Urban-rural transect model
- b) City transect model
- c) Density transect model
- d) Zoning transect model

13. As per Clarence Perry, which of the following is a unit considered to be within a walk-able distance of quarter-mile or 400 m radius?

- a) A Local Area Plan
- b) A City Unit
- c) A Zoning Unit
- d) A Neighborhood Unit

14. What would be the area of a neighborhood if it is to be within walk-able distance of 400 m radius?

- a) Approximately 151 acres
- b) Approximately 224 acres
- c) Approximately 124 acres
- d) Approximately 102 acres

15. A development that creates vibrant, livable, sustainable communities centered around public transport:

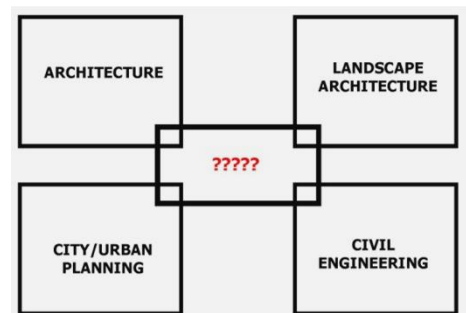
- a) A Transport Oriented Development
- b) A Transit Oriented Development
- c) A Transect Oriented Development
- d) A Mobility Development

16. Transfer of Development Rights which is also known as TDRs is a type of flexible zoning used for

- a) Preserving historical areas and open spaces or limiting development in fragile areas
- b) Enabling economic opportunities and optimizing construction potentialities

- c) Providing more development rights  
d) None of the above
17. The Garden City Ideal formulated by Ebenezer Howard sought to raise the standard of health and comfort through providing a living environment that combined the best elements of
- a) Nature and Human habitation  
b) Commercial and agricultural practices  
c) Gardens, parks and cities  
d) Town and country life styles
18. The City Beautiful Movement that flourished during 1890s and 1900s introduced beatification and monumental grandeur in cities. It also intended to create
- a) awareness on beauty and heritage values  
b) moral and civic virtue among urban populations  
c) harmony between nature and infrastructure development  
d) beautiful villages
19. According to Kevin Lynch who authored the book ‘The Image Of The City’, which of the following five types of elements form the image a city:
- a) Roads, Mountains, Forest, Buildings, and Rivers  
b) Paths, Edges, Districts, Nodes, and Landmarks  
c) Footpaths, Rivers, Buildings, Parks, and Monuments  
d) None of the above
20. \_\_\_\_\_ 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

21. The missing profession of urban development in the diagram is
- a) Structural Engineering  
b) Geo-informatics  
c) Urban Infrastructure Management  
d) Urban Design



22. The Thimphu Structure Plan is based on the principles of
- New Urbanism
  - Garden City Ideals
  - Intelligent Urbanism
  - Smart Growth
23. The Thimphu Structure Plan protects steep slopes and hills along the periphery of Thimphu City from intensive development by designating them as E4 precinct. One of following outlines the characteristics of E4 precinct:
- Slopes more than 20%; minimum plot size 25 decimal; and plot coverage 20%
  - Slopes more than 30%; minimum plot size 25 decimal; and plot coverage 20%
  - Slopes more than 45%; minimum plot size 25 decimal; and plot coverage 20%
  - Slopes more than 55%; minimum plot size 25 decimal; and plot coverage 20%
24. Identify the settlement in the picture.



- Tshongdu Town at Paro
  - Dekiling Town at Bumthang
  - Khuruthang Town at Punakha
  - Bajo Town at Wangdue Phodrang
25. The Structure Plans are implemented through
- Local Area Plans
  - Valley Development Plans
  - Neighborhood Plans
  - Sub-division Plans

26. \_\_\_\_\_ 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

27. Identify the picture

- a) Daebum Lam
- b) Chang Lam
- c) Norzin Lam
- d) Desi Lam



28. \_\_\_\_\_ is the design of products and environments to be usable by all people, to the greatest extent possible, without the need for adaptation or specialised design.

- a) Public Friendly Design
- b) Universal Design
- c) Disabled Friendly Design
- d) Differently Abled Design

29. There are three types of roads or streets which form a hierarchal network of road or street system in the towns and cities. They are

- a) Main road, secondary road and access road
- b) Primary road, connecting road and access road
- c) Highway, feeder road and farm road
- d) Primary road, secondary road and tertiary road

30. \_\_\_\_\_ refers to the process of rebuilding area of cities or towns which have become obsolete and abandoned, or are in a state of considerable decay.

- a) Urban reconstruction
- b) Urban renewal
- c) Urban rebuilding
- d) Urban rehabilitation

**PART II: Short Answer Questions (20 marks)**

**Answer ALL the questions in this section. Each question carries 5 marks. Copy the question number and write the answers to the question in the Answer Booklet.**

**Question 1:**

What is Land Pooling? (1)

List all the features, facilities, and amenities where the pooled land would be distributed for preparing a comprehensive urban development plan. Where necessary elaborate why they are being considered in the land pooling. (4)

**Question 2:**

What is Zoning? List one advantage and one disadvantage about zoning in urban planning. (2)

How is zoning different from precincts? (1)

If you are to prescribe development controls in the Tashichho Dzong area, how would they be? (3)

**Question 3:**

What is 'scale'? (1)

How is scale important in urban planning? (4)

**Question 4:**

What are the different types of spatial plans? (2)

Choose two and list at least one difference and similarity between them. (3)



**SECTION B: Case Study (50 marks)**

**Choose one question in this section and write the answer in the Answer Booklet. This section carries 50 marks.**

**Case 1:**

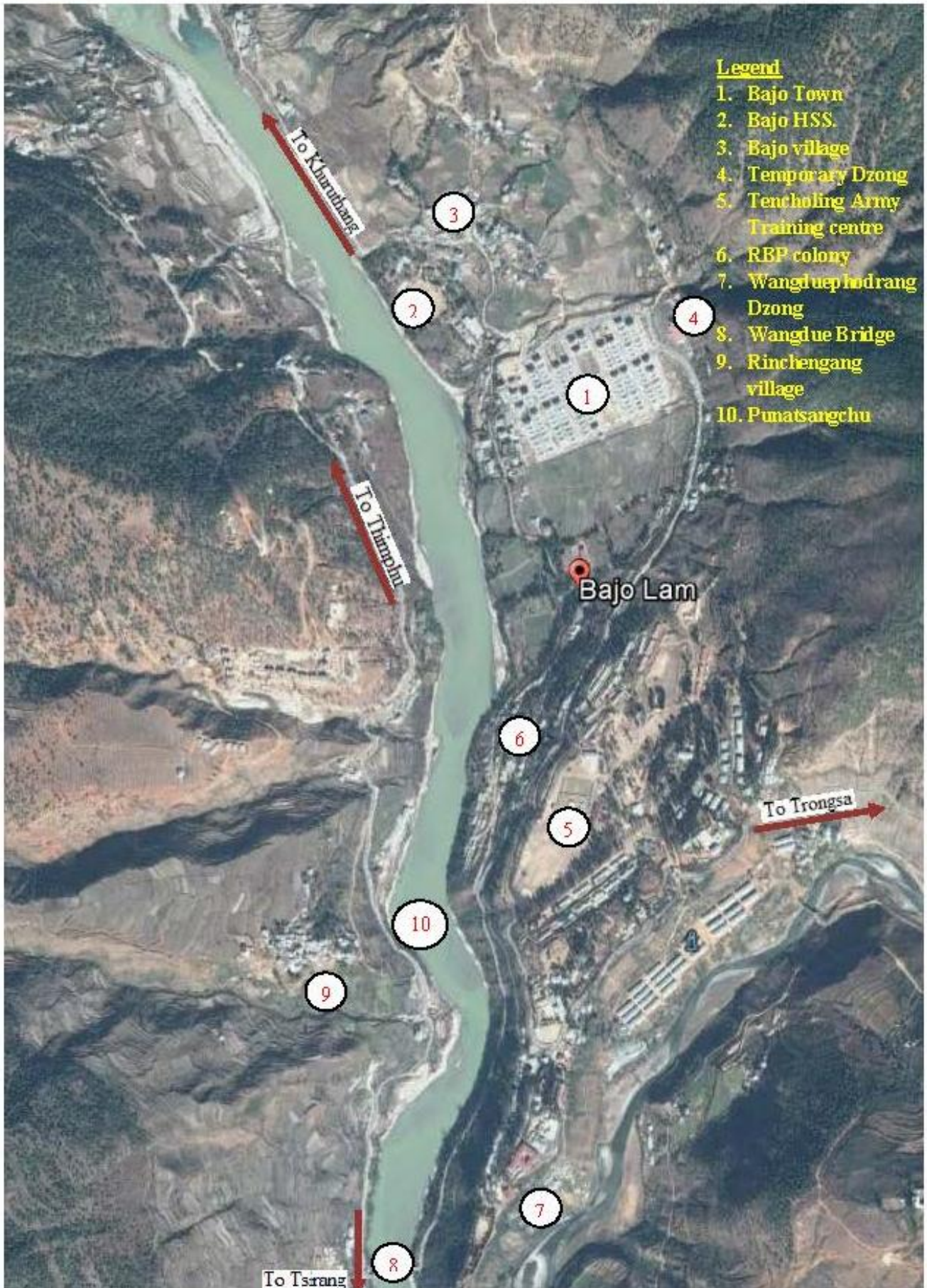
The principles of Smart Growth and New Urbanism are widely used in the preparation of urban development plans. Choose either Smart Growth or New Urbanism and do the following:

- a) Outline the principles.
- b) Critically evaluate at least five principles for their effectiveness in raising the quality of life.
- c) Relate the principles to an existing settlement in Bhutan. The existing settlement could be a town that you are familiar with.
- d) In the town that you have chosen to relate the principles, discuss shortcomings in relation to the principles and propose the improvement.

**Case 2:**

The Bajo Town of Wangdue Phodrang and Khuruthang Town of Punakha have been often criticized and discussed as the towns not to be copied elsewhere in Bhutan. Imagine that you have been hired as an urban planner to study the towns, analyze the problems, and recommend interventions. Choose either Bajo Town or Khuruthang Town and using the maps and pictures attached, do the following:

- a) Outline the methodology or process of carrying out the study.
- b) List issues and problems related to the town.
- c) Illustrate with sketches how the town would have been if those issues, problems and deficiencies were known and incorporated in the plan.
- d) Now that the town plan is implemented, suggest your proposals to improve the outlook of the town? Use as many sketches as possible to explain your ideas.





Close up top view of Bajo town



View of street in Bajo town



Rinchengang village



Wangdue Bridge



Wangdue Phodrang Dzong



Views of Bajo town





Close up top view of the main Khuruthang Town



View of Khuruthang



View of Khuruthang