

**ROYAL CIVIL SERVICE COMMISSION
BHUTAN CIVIL SERVICE EXAMINATION (BCSE) 2019
EXAMINATION CATEGORY: TECHNICAL**

PAPER III: SUBJECT SPECIALISATION PAPER FOR URBAN PLANNING

Date	: October 13, 2019
Total Marks	: 100
Writing Time	: 150 minutes (2.5 hours)
Reading Time	: 15 minutes (prior to writing time)

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 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 Questions
All 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 in 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 are required to 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. Thimphu Structure Plan 2002-2027 was prepared based on the principles of
 - a) Intelligent urbanism
 - b) Smart city
 - c) New urbanism
 - d) Garden city

2. Which of the following is NOT a principle of Intelligent Urbanism?
 - a) A balance with nature.
 - b) Transport Oriented Growth.
 - c) A balance with tradition.
 - d) Conviviality.

3. In which year did the Local Government Act 2009 amended?
 - a) 2012
 - b) 2014
 - c) 2016
 - d) 2017

4. A social reformer Ebenezer Howard published a book titled "*To-morrow: A Peaceful Path to Real Reform*" in 1898, which was later republished as
 - a) Garden Cities of To-morrow.
 - b) To-morrow: A Peaceful Path to Real Reform.
 - c) Garden Suburb of London.
 - d) Model Garden Cities of To-morrow.

5. The Compact City or City of Short Distances concept was first coined in 1973 by
 - a) Ebenezer Howard
 - b) George Dantzig and Thomas L. Saaty
 - c) Christopher Charles Benninger
 - d) Patrick Geddes

6. The Compact City or City of Short Distances coined in 1973 is an urban planning and urban design concept which promotes
 - a) low residential density with mixed land uses.
 - b) high residential density with mixed land uses.
 - c) medium residential density with mixed land uses.
 - d) urban sprawl.

7. The concept of “ Rural-Urban Fringe” was developed in 1968 by
 - a) T.L. Smith
 - b) George Dantzig and Thomas L. Saaty
 - c) Christopher Charles Benninger
 - d) Robin J. Pryor

8. The plan of Washington DC was conceived by Pierre Charles L’Enfant and it was approved by Washington and Jefferson. What pattern of street layout is adopted in Washington DC?
 - a) Diagonal and radial streets.
 - b) Diagonal and radial streets, superimposed upon the typical grid iron layout.
 - c) Radial streets.
 - d) Diagonal streets and grid cross streets.

9. The city should be divided into different so that suitable rules and regulations can be framed for each of them.
 - a) planning division
 - b) planning units
 - c) sectors
 - d) land use zones

10. A minimum radius of Cul-de-sacs (*Dead End Roads*) turn around area as per the Bhutan Urban Roads Standard 2002 is
 - a) 2 metres
 - b) 9 metres
 - c) 3 metres
 - d) 15 metres

11. As per the Spatial Planning Standards 2017 of Bhutan, the recommended time horizon for the National Spatial Plan is
 - a) 15 years
 - b) 20 years
 - c) 25 years
 - d) 10 years

12. A single storied house measuring 15metres x 30metres is proposed to be constructed on the plot measuring 25metres x 40metres. The plot coverage is
 - a) 40%
 - b) 45%
 - c) 35%
 - d) 50%

13. A house plot measures 1200 sq.m. and the total floor area of the multi storey building in the plot comes to 1800 sq.m. The floor space index is
 - a) 1.2
 - b) 1.5
 - c) 1.4
 - d) 1.8

14. Outlying residential districts of a city is termed as
 - a) Fringe Area
 - b) Urban Sprawl
 - c) Suburban Area
 - d) Urban Node

15. Which among the following criteria is the most important one to locate industries?
 - a) Cheaper Land Value.
 - b) Closer to place of consumption of raw materials.
 - c) Proximity to transport facilities.
 - d) Adequate water supply.

16. Identify the “ Composite Unit” from the following:
 - a) A worker
 - b) A household
 - c) A multi-family dwelling
 - d) A dwelling

17. The haphazard outgrowth of cities, often mixing land-use in unplanned ways, is most precisely known as
 - a) Strip Cities
 - b) Urban Periphery
 - c) Megalopolis
 - d) Urban Sprawl

18. Besides the use of land, the height and volume of the building is controlled by means of
 - a) Use Zoning
 - b) Height Zoning
 - c) Area Zoning
 - d) High Rise building Zoning

19. The first known Town Planner has introduced the principles of straight and wide streets.
 - a) Acropolis
 - b) Hippodamus
 - c) Patrick Geddes
 - d) Le Corbusier

20. When an urban area reached an advanced state of deterioration with lot of problems, the drastic measures to improve the conditions with new measures is called
 - a) Urban Development
 - b) Urban Conservation
 - c) Urban Renewal
 - d) Urban Characterization

21. Advantage of one way street is
- capacity and speed increase.
 - speed increases but capacity reduces.
 - increases safety for pedestrians.
 - distances travelled decreases.
22. The share of trips among different modes is
- Model choice
 - Model split
 - Model inventory
 - Model analysis
23. Easiest movement causing least problem of the traffic conflicts is
- merging from the left.
 - merging from the right.
 - diverging on the left.
 - diverging on the right.
24. The establishment of regulations limiting the use to which the land is put is called
- Sectors
 - Planning
 - Functioning
 - Zoning
25. Deliberately planned and overall effort to change the urban environment by adopting comprehensive and large scale adjustment of existing city areas for securing the present and future need of city inhabitant is
- Urban redevelopment
 - CBD
 - Urban Renewal
 - Urban Development
26. Land Pooling Rules 2009 was revised and given a new title called
- Land Pooling and Readjustment Regulation 2018
 - Land Readjustment Rules 2016
 - Land Pooling Regulation 2018
 - Land Pooling and Readjustment Rules 2018
27. Except as provided in section 66 of the Land Pooling Regulation, a local government shall configure plots and other land in a land pooling area so that contribution ratio does not exceed
- 35%
 - 30%
 - 25%
 - 40%

28. Bhutan Building Regulation 2018 was enacted under the power vested by of the Local Government Act 2009.
- Section 245
 - Section 300
 - Section 275
 - Section 290
29. Geo-Information Policy 2018 was formulated by
- Ministry of Information and Communication
 - National Land Commission Secretariat
 - Ministry of Works & Human Settlement
 - Department of Local Governance
30. Implementation Guidelines 2018 for National Land Use Zoning was formulated by
- Ministry of Information and Communication
 - National Land Commission Secretariat
 - Ministry of Works & Human Settlement
 - Ministry of Agriculture and Forests

PART II – Short Answer Questions (20 marks)

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

- What do you understand by Carbon Footprint? Define and give example.
- As an Urban Planner, how will you integrate energy and emission issues to the plan in a sustainable way?
- What are the specific differences between redevelopment, revitalization and renewal?
- A development company is planning to build a two-storey building on a rectangular parcel that has 100 feet of street frontage and 200 feet of depth. The first storey measures 50 feet by 200 feet, and the second storey measures 50 feet by 200 feet. There are no public rights-of-way, or other exceptional development limitations on the parcel. Calculate Floor Area Ratio and show the detail calculation.

SECTION B: Case Study (50 marks)

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

CASE I

1. a) What is "Transit Oriented Development"? Please define and explain its benefits in terms of environmental, fiscal and social. (15 marks)
- b) World Bank has proposed a new framework for guiding TOD plans, by simultaneously assessing the "three values" (3V) of transit stations and surrounding areas. What are these three values and define them? (5 marks)
2. Explain the phenomena of "shrinking cities"? What are the causes and consequences of the phenomena? What are the urban planning strategies and measures adopted to diminish the negative impacts of the phenomena? Can you present some cases? (30 marks)

CASE II

The Department of Human Settlement under Ministry of Works and Human Settlement has identified area under the Mongar Dzongkhag Throm with an area of 200 acres and the 15% of the total identified area is already developed. Out of 200 acres of land, 50 acres are owned by the Government. You are being hired as Urban Planner to prepare Local Area Plan for the said identified area. The available planning tools or techniques at your disposal is Land Pooling and Land Acquisition.

1. Define Land Pooling and explain the processes that will be involved in the application of Land Pooling as per the Land Pooling and Readjustment Regulation 2018. Articulate your answers with a flow chart if required. (20 marks)
2. Define Land Acquisition and explain the processes that will be involved in the application of Land Acquisition as per the Land Act 2007 and Land Rules and Regulations 2007. In addition to these, which rules shall be applied in the process? (20 marks)
3. In your opinion, which tool from the above two will be preferred and why? Please justify. (10 marks)

TASHI DELEK