

UNIVERSITY OF COLOMBO, SRI LANKA

FACULTY OF ARTS

SECOND YEAR EXAMINATION IN ARTS (ONLINE), SEMESTER II - 2019/2020

GYG 2232 – LOCATIONAL MODELS IN GEOGRAPHY

OPEN BOOK EXAMINATION

Instructions to Students:

- The question paper starts on page 2
- All written assessments must be **handwritten**. Handwriting must be **clear and readable**.
- Answers should be written on an **A4 size paper** (ruled/lined paper/or otherwise), using a **black ball point pen**.
- As is the case of an in-person examination, word processing or type setting of answers will not be permitted. This rule does not apply to any candidate who has been exempted by the University under applicable bylaws (e.g., due to visual impairment).
- The **index number must be written on the top right-hand side** of each page of the answer script. Do not write your name anywhere on the answer script.
- **Number the pages** of the answer script using the following format at the **bottom of the page**: E.g., if it consists of 5 pages 1/5, 2/5...etc.
- Use the **common front page** (provided on LMS) as the first page of the answer script. You may print, or hand write the front page which must be the first page of your assessment.
- The **total number of pages** should be indicated on the front page of the answer script.
- **Scan/take photos of the answer script and convert it to a single PDF file** in the order of the page numbers.
- The full page of the answer script must be properly covered in the scanned image, and the scanned image must be clear/readable.
- LMS does not permit individual pages to be uploaded separately.
- **The only acceptable file format is PDF. The PDF file should be named with your index number**, e.g. A 12345
- Uploading answer scripts as JPEG/JPG or any other form will not be permitted.
- Complete and upload the final version of the answer script to LMS **within the stipulated 24 hours**.
- Once the answer script has been uploaded to LMS, take **a screen shot of the full page** of the LMS with the word 'submitted', as an acknowledgement and keep with you.
- **If** there is an **unexpected technical issue** with the uploading of an answer script to LMS, you may send your answer script via email to exam2@arts.cmb.ac.lk within the stipulated 24-hour period.

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Duration: **24 hours** for completion and submission of answer scripts to LMS.

Answer **03** questions selecting at least one question from each part.

Use of calculators is allowed.

Part I

01. (A) Explain the following ideas using appropriate examples and diagrams
(Maximum of 300 words for each answer)

- I. Location theory addresses the questions of where the economic activities are located and why”.
- II. The Von Thünens’ model addresses the location of intensive and extensive agriculture in relation to the same market.
- III. Central place theory offered geometric explanations on, how settlements and places are located in relation to one another.
- IV. Transportation and distance are considered as the most important elements of almost all the locational models.

(03 Marks * 4=12 Marks)

(B) Explain the relationships between the concepts given below, using appropriate diagrams
(Maximum of 300 words for each answer)

- I. Location of the manufacturing industry and the material index
- II. Isotims and the space cost curve
- III. Distance and the interactions of population in two masses
- IV. Centrality value and centrality index

(02 Marks * 4= 08 Marks)

Part II

02. “Concepts and theories used in the locational models need to be revised considering the world wide pandemic conditions”. Do you agree with this statement? Discuss your answer using appropriate examples (Maximum of 1000 words for the answer)

(20 Marks)

03. “Locational models concern only the profit and the spatial interactions”. Critically examine this statement. (Maximum of 1000 words for the answer)

(20 Marks)

Part III

04. Distance between two raw material sites (Site A and B) of a particular product is 20 kilometres. The Market (M) is located 10 km from the raw material A and, 25 km from raw material B. Table 1 provides the data of the required resources and the final product.

Table 1: The input and output details of the product.

Details	Raw material A	Raw material B
Required raw material to produce one unit of output	3 tons	2.5 tons
Cost of per ton of material	20 \$	15\$
Transport cost for a ton of raw materials	1 \$	2 \$
Transport cost for a ton of final product	3\$	

I. Find out the most suitable location to locate the manufacturing industry in order to minimize the cost of the production.

(08 Marks)

II. Critically analyse the applicability of the method proposed by you under 4.I above, in the present world context providing appropriate examples (Maximum of 500 words for the answer).

(12 Marks)

5. A third order hexagonal settlement consisting of an area of 1145.34 km² is located in a 10000 km² region. The radius of the range of a third order settlement is 18.00 km. Answer the following questions based on the above mentioned details.

I. Considering the scale as 1cm = 10km, create a model to demonstrate the hierarchy of the 2nd and 4th order settlements related to above 3rd order settlement. Starting point of your drawing should be the centre of your drawing paper. Complete the following summary Table using the diagram created by you.

Hierarchy of settlements	Complete settlements	Incomplete settlements	Area of a settlement

(08 Marks)

II. “Central place theory does not effectively explain the influence of a city in the space”. Discuss this statement using the answer provided by you in 5.I and with appropriate examples from the real world. (Maximum of 500 words for the answer).

(12 Marks)
