# UTHM
### Universiti Tun Hussein Onn Malaysia

# UNIVERSITI TUN HUSSEIN ONN MALAYSIA

## FINAL EXAMINATION
## SEMESTER II
## SESSION 2022/2023

| | | |
|---|---|---|
| COURSE NAME | : | GEOGRAPHICAL INFORMATION SYSTEM FOR CIVIL ENGINEERING |
| COURSE CODE | : | BFG 40803 |
| PROGRAMME CODE | : | BFF |
| EXAMINATION DATE | : | JULY/AUGUST 2023 |
| DURATION | : | 3 HOURS |
| INSTRUCTION | : | 1. ANSWER **ALL** QUESTIONS. |
| | | 2. THIS FINAL EXAMINATION IS CONDUCTED VIA **CLOSED BOOK**. |
| | | 3. STUDENTS ARE **PROHIBITED** TO CONSULT THEIR OWN MATERIAL OR ANY EXTERNAL RESOURCES DURING THE EXAMINATION CONDUCTED VIA CLOSED BOOK. |

THIS QUESTION PAPER CONSISTS OF **THREE (3)** PAGES

TERBUKA

**Q1** (a) Evaluate how GIS can be used in civil engineering for infrastructure planning.

(10 marks)

(b) Demonstrate how Geographic Information Systems assist civil engineers in managing infrastructure assets like roads, bridges, and buildings

(10 marks)

**Q2** **Figure Q2** shows the data shape connection between real world, vector and raster data. Please answer based on the figure,

(a) Categorize the sources of real-world data.

(5 marks)

(b) Assemble the steps involved in archiving raster data from drones using aerial photography.

(15 marks)

**Q3** **Figure Q3** illustrates the display of GIS software. Please answer the following questions based on the diagram:

(a) List and explain the function of software interface parts.

(10 marks)

(b) Choose one geoprocessing operation that is crucial for spatial analysis. Justify the data processing method and the output format.

(10 marks)

**Q4** (a) List the objectives of geocode and assemble the consequences of incorrect geocoding.

(10 marks)

(b) Organize the most effective geocoding strategy.

(10 marks)

**Q5** (a) Interpret how civil engineers use GIS to optimize flood management?

(10 marks)

(b) Construct the role of GIS in flood risk assessment for civil engineering projects?
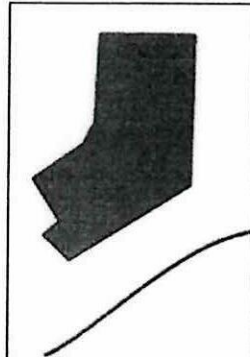
(10 marks)

-END OF QUESTIONS-

**CONFIDENTIAL**

**FINAL EXAMINATION**

| | | | | | |
|---|---|---|---|---|---|
| SEMESTER/SESSION | : | II / 2022/2023 | PROGRAMME CODE | : | BFF |
| COURSE NAME | : | GIS FOR CIVIL ENGINEERING | COURSE CODE | : | BFG 40803 |



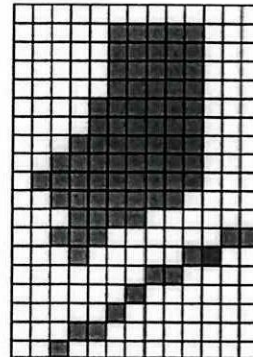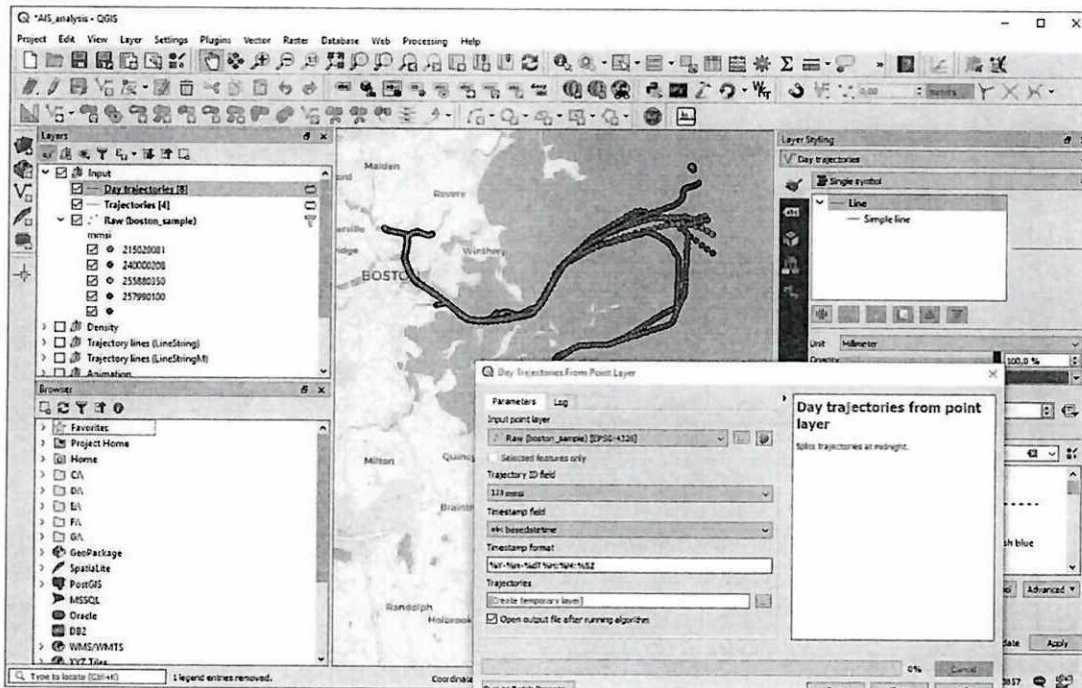**Real World**          **Vector**          **Raster**

**Figure Q2.** The relationship between data.



**Figure Q3**: A display view of QGIS software.