

Tribhuvan University
Institute of Science and Technology
2081
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Bachelor Level / Fourth Year/ Eighth Semester/ Science
Computer Science and Information Technology (CSC468)
(Geographical Information System)
(NEW COURSE)

Full Marks: 60
Pass Marks: 24
Time: 3 hours.

Candidates are required to give their answers in their own words as far as practicable.
The figures in the margin indicate full marks.

Section A

Long answer questions:

Attempt any Two questions:

(2×10=20)

1. Explain the functions of a GIS. Differentiate between raster and vector data models with illustrations. (3+7)
2. What is overlay operation? List application of overlay operation. How point in polygon, line in polygon and polygon on polygon are different from each other. (2+2+6)
3. How GPS is different from Remote Sensing? Explain how GPS works with illustrations. Mention the different errors in GPS. (2+6+2)

Section B

Short answer questions:

Attempt any Eight questions:

(8×5=40)

4. What are the differences between spatial and attribute data? How can spatial data join with attribute data? Explain (3+2)
5. Differentiate between the accuracy and precision of data. Use diagrams to illustrate your answer. (5)
6. Differentiate between local and focal operations in raster data with suitable examples. (5)
7. Mention different types of map projection methods. Explain UTM projection system. (3+2)
8. Differentiate between spaghetti and topological vector data models with illustrations. (5)
9. Explain different types of interpolation techniques in GIS. (5)
10. Differentiate between active and passive sensor with examples. (5)
11. Define the web based GIS. Explain the benefits of web based GIS. (3+2)
discrimination
12. Write short notes on (2×2.5=5)
 - a) Map elements
 - b) Map scale and resolution