Candidates are required to give their answers in their own words as far as practicable.

Figure in the margin indicate full marks.

Group A

Answer TWO questions.   2×12=24

1. What is spatial reference? Explain the types of map projection with suitable demonstration for each.   2+10

2(a) Explain with components of GIS.   4

  (b) Explain the application of GIS in the following areas: Transportation, Business environment and city planning.   8

3. Define the importance and benefits of overlay operations. Explain different types of overlay operations with appropriate example. 3+9

Group B

**Answer SEVEN questions.**   7×8=56

4. Define spatial data. Explain different spatial data in detail with suitable example.   2+6

5. Explain the basics of GPS. Relate the integration of GPS with GIS.   8

6. Define Tessellations and DEM. Explain different spatial data handling stages.   3+5

7. What are the barriers in implementing GIS projects in Nepal? Explain the possible factors that can be used to successfully implement a GIS project.   3+5

8. What are maps and what are the elements of a map? Explain the necessity of designing map outputs.   4+4

9. Define region quadtree. Develop a region quadtree for the following geographic pattern.   2+6
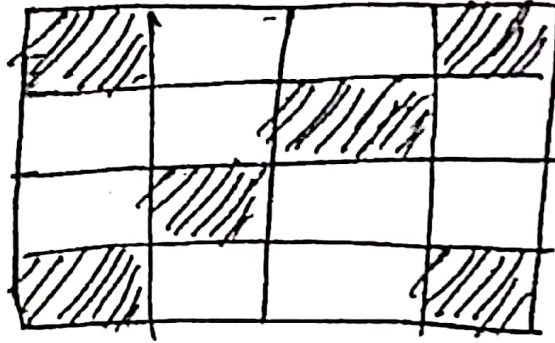
10. What is remote sensing? Explain spatial data quality with its components. 2+6

11. Explain the digitizing process of data capture in GIS. 8

12. Write short notes on any TWO: 4+4
    (a) DTM
    (b) UTM
    (c) Remote Sensing

PURBANCHAL UNIVERSITY
2017

Bachelor in Information Technology (B.I.T.)/Seventh Semester/Final

Time: 03:00 hrs.   Full Marks: 80 /Pass Marks: 32

BIT477GI: Geographical Information System (GIS) (Elective-I) (New Course)

Candidates are required to give their answers in their own words as far as practicable.

Figure in the margin indicate full marks.

Group A

Answer TWO questions.   2×12=24

1. Compare between Raster and Vector Data Model for representing geographic features.

2. Does implementing GIS could be benefited for any development organization? What are the considerations that any institution implements an appropriate GIS?

3. What is the working principle of global positioning system? How would you populate GPS data in any map or integrating GPS data with GIS?

Group B

Answer SEVEN questions.   7×8=56

4. Explain the importance of GIS. How will GIS turn to be blessings for land locked country like Nepal?

5. What is error? Explain how, where and when digitizing error and attribute error are encountered in GIS?

6. What are the different digitizing techniques?

7. How overlay operation are performed? Discuss on neighborhood functions.

8. What is the significance of aerial photography in GIS? Discuss.

9. Explain the functional components of GIS with diagram.

10. How do you define spatial referencing system? Discuss on map projection?

11. Write short notes on any TWO:
    (a) Remote Sensing   (b) Reclassification
    (c) Tessellations and Quad-Tree representation

PURBANCHAL UNIVERSITY
2015

Bachelor in Information Technology (B.I.T.)/Seventh Semester/*Final*

Time: 03:00 hrs.   Full Marks: 80 /Pass Marks: 32

BIT431CS: Geographical Information System (Elective)

Candidates are required to give their answers in their own words as far as practicable.

Figure in the margin indicate full marks.

Group A

Answer TWO questions.   2×12=24

1.   What is data capturing in GIS? Explain digitizing techniques of spatial data capturing.   2+10

2.   Define map projection. Why is it required? Describe cylindrical and comical map projections with suitable illustrations.   4+8

3.   What do you mean by overlay operation? Explain its types with suitable examples.   3+9

Group B

Answer SEVEN questions.   7×8=56

4.   What is geographic data infrastructure? Explain the concept of metadata and goals of clearinghouse activity.   2+6

5.   Mention the barriers of implementing GIS projects in our country. Suggest some factors that would help a GIS project to be successful.   2+6

6.   What is geographic data? What are its types? Explain with examples.   2+6

7.   What do you mean by neighbourhood functions in GIS? Explain with examples.   2+6

8.   Explain the basics of GPS. Relate the integration of GPS with GIS.   3+5

9.   What are the different spatial data models that describe the geographic phenomena of the real world? Explain.

10. Define tessellation. Draw a region quadtree for the following geographic pattern. 2+6
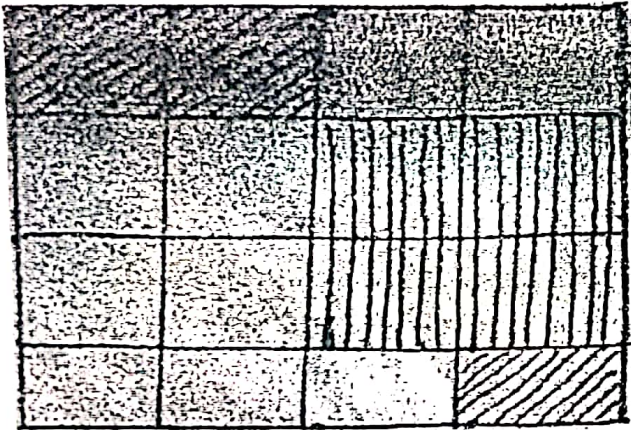
11. Write short notes on any TWO: 4+4

(a) Remote Sensing

(b) Geo-database

(c) Quality of GIS data

(d) Errors in geographic data

PURBANCHAL UNIVERSITY
2014
Bachelor in Information Technology (B.I.T.)/Seventh Semester/Final

Time: 03:00 hrs.   Full Marks: 80 /Pass Marks: 32

BIT431CS: Geographical Information System (Elective)

Candidates are required to give their answers in their own words as far as practicable.

Figure in the margin indicate full marks.

Group A:

Answer TWO questions.   2×12=24

1(a). Explain the components of GIS. List out its scope of application. 4+2

(b) What are the different spatial operations used for handling geographic data? Explain overlay operations with example.   6

2. What is spatial data model? Explain different models with appropriate examples.   2+10

3. Why projection and coordinate system are needed in cartography? What are the major projection and coordinate systems used in GIS? Explain.   2+10

Group B:

Answer SEVEN questions.   7×8=56

4. Differentiate between spatial and non-spatial data in GIS. Explain spatial data handling stages.

5. What are the principle characteristics of Database Management System? Explain the types of DBMS used in GIS.

6. What is GPS? Explain how it works.

7. What are the barriers in implementing GIS projects in Nepal? Explain the possible factors that can be used to successfully implement a GIS project.

8. Explain the concept of metadata and clearing house in GIS.

9. What are maps and what are the elements of a map? Explain the necessity of designing map outputs.

10. What are the possible errors that may occur during digitization process? How are they recovered?

11. Write short notes on any TWO: 2×4=8

    (a) Buffering

    (b) Accuracy and precision

    (c) Remote sensing

PURBANCHAL UNIVERSITY

2012

Bachelor in Information Technology (B.I.T.)/Seventh Semester/Final

Time: 03:00 hrs.   Full Marks: 80 /Pass Marks: 32

BIT431CS: Geographical Information System (Elective)

Candidates are required to give their answers in their own words as far as practicable.

Figure in the margin indicate full marks.

Group A:

2×12=24

Answer TWO questions.

1. What is spatial reference? Explain the types of map projection with suitable demonstration of each.   3+9

2. What are spatial analysis and spatial analysis functions? Explain in detail, the overlay separations.   4+8

3(a). Define topology. How are the topologies represented in GIS?   6

(b) Discuss the importance of maps in GIS. What are the ingredients of a map?   6.

Group B:

7×8=56

Answer SEVEN questions.

4. What is clearinghouse? Explain its goals, and mention its requirements.

5. Explain the different stages of geographic data handling.

6. What do you mean by GPS? Explain its uses in GIS.

7. Discuss the challenges of implementing GIS activities in Nepal.

8. What are the possible errors that may encounter during digitization process? How are they recovered?

9. Explain raster-to-vector conversion process in GIS.

10. Define tessellation. Draw a region quadtree for the given geographic pattern.
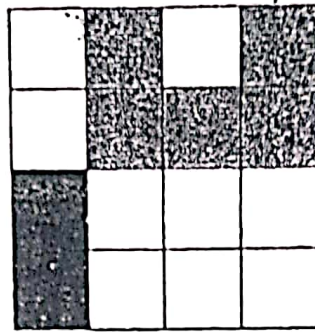
11. Write short notes on any TWO: 2×3.5=7
    (a) Data quality
    (b) Spatial data model
    (c) UTM

PURBANCHAL UNIVERSITY
2012
Bachelor in Information Technology (B.I.T.)/Seventh Semester/Chance

Time: 03:00 hrs.   Full Marks: 80 /Pass Marks: 32

BIT431CS: Geographical Information System (Elective)

Candidates are required to give their answers in their own words as far as practicable.

Figure in the margin indicate full marks.

Group A:

Answer TWO questions.   2×12=24

1(a) Define GIS and its components.   6

  (b) Explain the application of GIS in the following areas: Transportation, business, and environment.   6

2. What is SDI? What are its objectives? Describe metadata with its importance.   6+6

3. Discuss the importance of spatial database in GIS. Explain the types of DBMS with their usability aspects in GIS.   12

Group B:

Answer SEVEN questions.   7×8=56

4. Explain the aspects of map projection with demonstration.

5. Why is spatial analysis so important in GIS? Discuss proximity analysis with example.

6. Explain the digitizing process of data capture in GIS.

7. Differentiate between raster and vector data models.

8. What are the factors that can successfully implement GIS activities in Nepal? Elaborate your views.

9. What is data quality? Explain the quality aspects of spatial data.

10. Define region quadtree. Develop a region quadtree for the following geographic pattern.

11. Write short notes on any TWO:
    (a) Map output
    (b) Remote sensing
    (c) DTM

Bachelor in Information Technology (B.I.T.)/Seventh Semester/Final

Time: 03:00 hrs.   Full Marks: 80 /Pass Marks: 32

BIT CS: Geographical Information System

Candidates are required to give their answers in their own words as far as practicable.

Figure in the margin indicate full marks.

Group A

Answer TWO questions.   2×12=24

What do you mean by Spatial Data Modeling? What are the different stages of Spatial Data Modeling? Explain.   4+8

Define attribute accuracy. Explain in detail about the Data Quality and Data Assessment.   2+10

Why is it important for the user to be aware of the database structure when using a GIS? Explain.   12

Group B

Answer EIGHT questions.   8×7=56

Define GIS. What are the different components of GIS?   2+5

Write the scope of GIS in Nepal.   7

Why the database management system so important? What are their main functions?   3+4

What data model are used to represent the GIS information and why? 7

Describe SDI and its components.   3+4

Differentiate between the Raster Data Structure and Vector Data structure.   7

What do you mean by data acquisition? Explain in brief about Raster Data Conversion.   2+5

Why GPS and Remote sensing important in GIS? Explain.   7

Short notes on any TWO: 3.5+3.5
(a) Data Difference   (b) Metadata and geo-data
(c) Cartography