

KATHMANDU UNIVERSITY
End Semester Examination
February/March, 2019

Marks Scored:

Level : B. E.

Year : IV

Course : GEOM 406

Semester: I

Exam Roll No. :

Time: 30 mins.

F. M. : 10

Registration No. :

Date **10 MAR 2019**

SECTION "A"


[20 Q × 0.5 = 10 marks]

Tick the correct answer from given choices.

1. Which of the following level of SDI have less detail data:
a. State SDI b. National SDI c. Regional SDI d. Corporate SDI
2. Which of the following ISO standard describes positioning services?
a. 19109:2005 b. 19125:2003 c. 19115:2003 d. 19116:2004
3. Web Feature Service (WFS) is one of the OGC standardized services that.....
a. provides access to vector data with output in jpeg, gif.
b. provides access to vector data with output in GML
c. provides access to remote GIS operations.
d. provides access to metadata of geo-services.
4. In which format the Content Standard for Digital Geospatial Metadata (CSDGM) is written?
a. Hyper Text Markup Language (HTML) b. Extensible Markup Language (XML)
c. Text document d. Geographical Markup Language(GML)
5. Who are responsible for managing and updating metadata records?
a. IT/System Managers b. Scientists and Field Staff
c. GIS Analysts d. Gateway Manager
6. In a new generation geo-portal data discovery is not possible using following technique...
a. analytical methods used b. data quality
c. temporal character d. none
7. Exploitation metadata is a kind of metadata that
a. enable organizations to know and publicize what data holdings they have.
b. ensure that others use the data correctly and wisely.
c. helps end users and provider organizations to effectively store, reuse, maintain and archive their data holdings.
d. helps organizations to explore quality of data that they are using.
8. Which kind of web map suits best to detect vehicular traffic in urban road network?
a. Static web map b. Real time web map
c. Animated web map d. Collaborative web map
9. Which of the following catalog interface is used by geonetwork?
a. OGC CSW 2.0 b. Z39.50/ISO23950 c. ebDAV d. All
10. A new harvesting node can be created in geonetwork using following protocol:
a. Apolo server b. WebDav server c. Geoserver d. All

11.is one of the Sensor Web Enablement (SWE) standard web service interfaces for requesting user-driven acquisitions and observations.
 - a. Sensor Observations Service (SOS)
 - b. Sensor Planning Service (SPS)
 - c. Sensor Alert Service (SAS)
 - d. Web Notification Services (WNS)
12. Gazetter client is one of the components in geoportal that.....
 - a. provides users the ability to extract specific content
 - b. allows users to access, modify and add content stored in remote data storage facility
 - c. allows users to formulate queries to retrieve named features
 - d. provides access to browse styles available from given server
13. Ext JS Javascript library can be implemented in the of geoportal.
 - a. presentation tier
 - b. application tier
 - c. service tier
 - d. web layer
14. Catalog geoportal are concerned primarily with...
 - a. organizing and managing access to geo-information
 - b. providing on-line, dynamic geographic web services
 - c. providing services such as registering metadata
 - d. organizing mapping and routing services
15. The candidate file formats for encoding vector information on the WWW are:
 - a. GML
 - b. PNG
 - c. Both a and d
 - d. Simple Vector Format
16. GeoRSS feed is used to
 - a. transfer meta data through webservice
 - b. know when new data is available
 - c. upload geo-data in the geoportal
 - d. deliver download link through email
17. In NSDI, organizational structure the role of lead agency is :
 - a. To draft standards for implementation of geoportals
 - b. To prepare data access, data sharing policies
 - c. Undertake the networking management functions and linkage with the other SDI initiatives
 - d. Analyze outcome of activates undertaken by lower level organs
18. The documentation and cartography works in OpenStreetMap tiles are licensed under :
 - a. Creative Commons Attribution- commercial-ShareAlike 2.0
 - b. Creative Commons Attribution-Non commercial-No Derivative
 - c. Open Data Commons Open Database License
 - d. Creative Commons Attribution-ShareAlike
19. ShareAlike creative commons license is a type of license that holds following condition:
 - a. no commercial use
 - b. changes allowed, but only if you put the new work under the same license
 - c. no changes allowed
 - d. attribute the author



20. The creative commons sign  denotes:
 - a. Attribution- commercial-ShareAlike
 - b. Attribution-Non commercial-No Derivative
 - c. Attribution-Non commercial-ShareAlike
 - d. Attribution- commercial-Derivative

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SECTION "B"

[6Q. × 4 = 24 marks]

(Short answer questions)

Attempt *ANY SIX* questions.

1. Define Spatial Data Infrastructure (SDI). What are the benefits of Spatial Data Infrastructure (SDI)? Explain SDI Hierarchy with examples. [1+1+2]
2. Why do we need to maintain metadata? Elaborate different levels of metadata. [2+2]
3. What are basic building blocks of geonetwork? Explain in detail. [4]
4. What is crowd sourced mapping? Can it be used as a component in Local SDI? If yes, propose and explain an ideal architecture of citizen service as application of local SDI. [1+3]
5. Draw conceptual institutional model for implementing National Spatial Data Infrastructure. What are roles and responsibilities of different components in your model? [1+3]
6. Elaborate the concept of Location Based Services (LBS)? Write in brief some applications of LBS. [2+2]
7. Write short notes on: [2+2]
 - a. Web Coverage Service (WCS)
 - b. Sensor web

SECTION "C"

[2Q. × 8 = 16 marks]

(Long answer questions)

Attempt *ANY TWO* questions.

8. What is the role of policy in SDI? What kinds of policies are required for successful SDI? If you are given responsibility to formulate Personal Privacy Policy, what would be the policy statements? Give explanation with examples. [2+1+5]
9. Why licensing is important in SDI? Explain different creative common licenses. As a geomatics engineer you are given a responsibility to formulate geospatial data sharing policy, what would be the policy statements? Give explanation with examples. [1+3+4]
10. Define geoportal. Suppose you are implementing NSDI in Nepal. Which standards will you follow for creating geoportal? Explain geoportal architecture based on open source software stack. [1+2+5]

