KATHMANDU UNIVERSITY
End Semester Examination
February/March, 2018

Marks scored:

Level : B.E.
Year : IV

Course : GEOM 406
Semester: I

Exam Roll No.:

Time: 30 mins.

F.M. : 10

Registration No.:

Date : MAR 1 8 2018

SECTION "A"
[20 Q.×0.5=10 marks]

1. Without regional SDI, number of mechanisms required to share and exchange Geographic Information for regional cooperation are:
   a. n (n-1) b. n (n+1) c. n (n-2) d. 2n

2. ISO standard 19115:2003 Geographic information describes:
   a. Web Map Server Interfaces b. Metadata
   c. LBS-Tracking and Navigation d. Simple feature access

3. Standards for big data are published by the organisation(s):
   a. ISO and IEC b. ISO c. OGC d. W3C

4. Web Coverage Service (WCS) is one of the OGC standards that:
   a. provides access to raster data
   b. provides access to metadata of geo-services
   c. provides access to remote GIS operations
   d. provides access to vector data

5. All of the following bodies are mandated to prepare metadata standards except:
   a. SDTS b. CSDGM c. W3C Consortium d. Dublin Core

6. The link between geospatial data and metadata commonly follows the rule of:
   a. 1:1 b. 2:1 c. 3:1 d. 1:2

7. The responsibility of _____ is to assign levels of access of the catalog service and provide one or more conformant metadata entries
   a. Catalog Administrator b. Gateway Manager
   c. Catalog User d. Contributor to the catalog

8. Digital catalog services contain which of the following feature that is absent in traditional catalogs.
   a. Publication information b. Structural information
   c. Timestamp d. Locational information

9. For which of the following catalog implementation model, metadata are exported from contributors and forwarded to the common site where they may be evaluated, loaded and made publicly accessible.
   a. Workgroup Approach b. Alternative Approach
   c. Consortium Approach d. Corporate Approach

10. Which kind of web map is best suitable to track vehicular traffic in an urban road network?
    a. Static web map b. Personalized web map
    c. Analytic web map d. Real-time web map

11. The spatial data formats for geospatial data delivery prepared by international consensus are:
a. MapInfo b. ESRI c. Intergraph d. SDTS

12. Users may leverage _____ to process geospatial information and prepare it for presentation to other users
a. Portal Services b. Portrayal Services c. Catalog Services d. Data Services

13. Arrange in correct order the role of geoportal in SDI
a. publish, search, discover, consume
b. search, discover, publish, consume
c. search, discover, consume, publish
d. consume, publish, search, discover

14. GeoRSS feeds are useful in which of the following geoportal use cases?
a. To find data
b. To download data
c. To find when new data is available
d. To share resources

15. Which of the following catalog interface is not used by Geonetwork?
a. OGC CSW 2.0
b. KML
c. Z39.50/ISO23950
d. OAI-PMH

16. In a geoportal data for the local geoservices is held in a DBMS that is accessed via a _____ that links the IMS with the DBMS
a. ArcGIS server b. Web Server c. Geoportal Server d. Database gateway

17. Policies that relate to protection of location and citizen sensitive information such as income tax belong to category of:
a. Personal Privacy Policy
b. Intellectual Property Rights Policy
c. Custodianship/Ownership Policy
d. Access Policy

18. The Open Data Commons Open Database License for databases uses which of the following creative commons license?
a. Attribution-ShareAlike
b. Attribution-Noncommercial-ShareAlike
c. Attribution-Commercial-Noderivative
d. Attribution-Noncommercial-NoDerivative

19. The creative commons sign  denotes:
a. Attribution-Commercial-Noderivative
b. Attribution-Noncommercial-ShareAlike
c. Attribution-Noncommercial-Derivative
d. Attribution-Noncommercial-NoDerivative

20. Web 2.0 technology that uses content from multiple sources to create a single new service displayed in a single graphical interface:
a. Folksonomy b. Mash-ups c. Blogs d. Crowd-mapping

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SECTION "B"

(Short answer question)
[6 Q.×4=24 marks]

Attempt any *SIX* questions.

1. Define SDI. Explain the role of interoperability in SDI. [2+2]

2. Define few key features of a Geonetwork. List two capabilities each that Geonetwork provides for users and data providers. [2+2]

3. What are dynamic web maps? List the web implementation formats available for raster or vector files. [2+2]

4. Define geoportal. Explain publish-find-bind principle of a geoportal. [1+3]

5. Discuss any two approaches to implement SDI [4]

6. Suppose you are implementing NSDI in Nepal. Which standard will you follow for maintaining metadata and why? What will be the major elements for the standard?[4]

7. Write short notes on: [2+2]
   a. Web 2.0
   b. Benefits of cloud computing for SDI

SECTION "C"

(Long answer question)
[2 Q.×8=16 marks]

Attempt any *TWO* questions.

8. VGI is a form of crowdsourcing. Justify this statement. Discuss the steps to process any VGI. Using examples discuss some challenges faced by VGI. [2+3+3]

9. What is a geospatial data catalog? Describe the roles played by different stakeholders to maintain catalog services. Describe the options that can be used to develop access interface for such catalogs. [2+3+3]

10. What is the role of policy in SDI? Explain the different licenses available for SDI. Suppose you are assigned to make policy statements for protecting the information privacy in federal geospatial databases. Mention three such statements. [2+3+3]