

Seat No. \_\_\_\_\_

Enrolment No. \_\_\_\_\_

**THE CHARUTAR VIDYA MANDAL UNIVERSITY**  
**M.Sc. Geoinformatics – SEMESTER III**  
**WINTER 2021 EXAMINATION**

**Course Title: Spatial Data Infrastructure And Web GIS Services**

**Course Code: 101400301**

**Total Printed Pages : 02**

**Date: 16/11/2021**

**Time: 10.00 am to 12.00 pm**

**Maximum Marks: 60**

**Instructions:**

- Attempt all questions.
- Numbers to the right indicate full marks for each question.
- Make suitable assumptions wherever necessary.

**Q. 1 Answer the following multiple choice questions. (12)**

- (1) \_\_\_\_\_ metadata provide minimum amount of information for inquirer to know the content of data  
(a) Discovery (b) Exploration (c) Exploitation (d) Basic
- (2) \_\_\_\_\_ service deliver raw data and not map  
(a) Discovery (b) Access (c) Processing (d) None
- (3) Ability for different systems to exchange/use geospatial information is called ?  
(a) Geospatial Interoperability (b) Geospatial Interference  
(c) Both (a) & (b) (d) None of these
- (4) Corporate SDI is having which type of data?  
(a) Less Detailed (b) More Detailed (c) Complex (d) All
- (5) SOA stands for \_\_\_\_\_  
(a) Server Oriented Approach (b) Service Oriented Approach  
(c) Server Oriented Architecture (d) Service Oriented Architecture
- (6) qgis2web plugin of QGIS is used to generate \_\_\_\_\_.  
(a) Vector data (b) Raster Data (c) Map (d) Web map
- (7) Metadata from ISO 19115 can be expressed in \_\_\_\_\_.  
(a) XML (b) GML (c) HTML (d) Any
- (8) \_\_\_\_\_ and \_\_\_\_\_ are the main two types of Geospatial Web Services  
(a) Vector and Raster Oriented (b) Map and Task Oriented  
(c) Map and Raster Oriented (d) Process and Grid Oriented
- (9) What is the default password of Geoserver?  
(a) Geoserver (b) Admin (c) geoserver (d) admin
- (10) \_\_\_\_\_ service is going to share vector based data for example ESRI shapefiles (.shp).  
(a) WMS (b) WFS (c) WCS (d) WMTS

- (11) Performance of a Web mapping site largely depends on \_\_\_\_\_  
 (a) Indexing (b) Server Configuration  
 (c) bandwidth (d) Client Configuration
- (12) \_\_\_\_\_ WebGIS Framework functions both in online, and offline modes.  
 (a) MapServer (b) GeoMajas (c) MapFish (d) Open WebGIS

<b>Q. 2</b>	<b>Attempt any eight of the following.</b>	<b>(16)</b>
(1)	Write a note on SDI Hierarchy.	
(2)	Define Clearing House and FGDC.	
(3)	What is Quality of Service? List out and define two standard methods to measure the performance of a system.	
(4)	Define Distributed Architecture, Geospatial Interoperability.	
(5)	What is Web GIS? List out 5 essential key elements of Web GIS.	
(6)	Write a note on web GIS components.	
(7)	What is Mobile GIS? List out objectives of Mobile GIS.	
(8)	Define Location based services, Geolocation API	
(9)	What is OGC? What is OGC's mission?	
(10)	What are Metadata? List out metadata standards.	
<b>Q. 3</b>	What is SDI? List out and Explain elements of SDI in detail.	<b>(08)</b>
	<b>OR</b>	
<b>Q. 3</b>	Explain how SDI is helpful in Decision making and Planning.	<b>(08)</b>
<b>Q. 4</b>	Write a note on Client-Server Architecture. Explain basic two types of client server architectures.	<b>(08)</b>
	<b>OR</b>	
<b>Q. 4</b>	Write a note on Web GIS Development Life Cycle.	<b>(08)</b>
<b>Q. 5</b>	List out types of Geospatial web services. Explain various operations carried out for map service.	<b>(08)</b>
	<b>OR</b>	
<b>Q. 5</b>	Write a note on various data formats supported by Web GIS for vector and raster both.	<b>(08)</b>
<b>Q. 6</b>	What is XML? Differentiate XML and HTML. What is GML? Write a note on GML.	<b>(08)</b>
	<b>OR</b>	
<b>Q. 6</b>	List out OGC Web services. Write a detail note on WFS.	<b>(08)</b>

**CVM UNIVERSITY**M.Sc. Geoinformatics, Sem-3<sup>rd</sup>

Examination November 2021

Course Code: 101400302,

Paper Title: QGIS and Application Development

Date: 17<sup>th</sup> Nov. 2021

Time: 10:00 AM to 12:00 PM

TOTAL MARKS: 60

**[12]****Q. 1 (A) Answer the following multiple choice question.**

- (1) Projected coordinate system includes \_\_\_\_\_.  
(A) Map projection only (C) Both (A) & (B)  
(B) GCS only (D) None of above
- (2) In QGIS software 3.20 a Node tool is used for \_\_\_\_\_.  
(A) Add vertices (C) Both (A) & (B)  
(B) Delete vertices (D) None of above
- (3) For QGIS, \_\_\_\_\_ is one of the plugins categories by default available.  
(A) Core (C) Both (A) & (B)  
(B) Privet (D) None of above
- (4) \_\_\_\_\_ is / are GUI of QGIS software.  
(A) Map view (C) Both (A) & (B)  
(B) panels (D) None of above
- (5) Geo-tag Photos may compromise \_\_\_\_\_ for people  
(A) Privacy (C) Both (A) & (B)  
(B) Authentication of location (D) None of above
- (6) The chlorophyll pigment absorptions in the \_\_\_\_\_ and the high reflectivity of plant materials in the \_\_\_\_\_ band.  
(A) red band, near-infrared (NIR) (C) Visible , red band  
(B) near-infrared (NIR), red band (D) near-infrared (NIR), Visible
- (7) Major reason of 'Invalid Plugins' message on display for QGIS is \_\_\_\_\_.  
(A) Core plugin (C) Privet plugin  
(B) Incompatible plugin (D) None of above
- (8) QGIS browser allowed us to access \_\_\_\_\_ for resources.  
(A) Network only (C) Both (A) & (B)  
(B) Database only (D) None of above
- (9) A world file is a \_\_\_\_\_ plain text sidecar for GIS to Georeferenced raster image.  
(A) two line (C) Four line  
(B) Six line (D) None of the Above
- (10) In QGIS plugin named Qgis2threejs is used \_\_\_\_\_ library  
(A) Arcpy (C) Python  
(B) JAVA (D) None of the Above
- (11) A python API through Google Collaboratory is known as \_\_\_\_\_.  
(A) Google Earth Engine (C) COLAB  
(B) Google Cloud (D) COTAB
- (12) Disadvantage of Cloud Computing is \_\_\_\_\_.  
(A) Shared environments vulnerability (C) Scalability  
(B) Cost Reduction (D) None of the Above

**Q.2 Answer the following.(attempt any Eight, each two marks) [16]**

- (1) What is snapping tolerance & Search radius?
- (2) Write a note on plugins and its importance in QGIS.
- (3) What is importance of map book in QGIS? Why?
- (4) What Is pyramid tab?
- (5) What is raster alignment tool in QGIS?
- (6) What is spatial query plugin?
- (7) What is georeferencing? What is importance of it in GIS?
- (8) Define ruggedness index.
- (9) How QGIS helpful for Urban Climate Change and Disaster Management?
- (10) What is Asset Manager in Google Earth Engine?

**Q.3 Write a note on datum transformation system with necessary figures. [08]**

**OR**

Explain vertical co-ordinate system & projected co-ordinate system and show the importance of QGIS browser. [08]

**Q.4 Write a note on Raster data properties of QGIS software. [08]**

**OR**

Explain QGIS as OGC Data Client & Server for WMS, WMTS, WCS, and WFS. [08]

**Q.5 Write a note on raster terrain analysis plugin in QGIS. [08]**

**OR**

In detail explain Linear algorithm methodology for World file format to perform Georeferencing in QGIS. [08]

**Q. 6 Explain Importance of Collecting GIS field data? What precaution & planning need before, after & at time of collecting GIS field data? [08]**

**OR**

What is importance of Geo Tagged Photos? Explain Geo-tag photos usage & Applications. [08]

-: All The Best:-

**THE CHARUTAR VIDYA MANDAL UNIVERSITY**  
**M.Sc. Geoinformatics – SEMESTER III**  
**WINTER 2021 EXAMINATION**

**Course Title: Mobile GIS**

**Course Code: 101400303**

**Total Printed Pages : 02**

**Date: 18/11/2021**

**Time: 10.00 am to 12.00 pm**

**Maximum Marks: 60**

**Instructions:**

- Attempt all questions.
- Numbers to the right indicate full marks for each question.
- Make suitable assumptions wherever necessary.

- Q. 1                      Answer the following multiple choice questions.                      (12)**
- (1)      Android is based on which Kernal?  
(a) Linux      (b) Windows   (c) Mac                      (d) Redhat
  - (2)      What Activity method you use to retrieve a reference to an Android view by using the id attribute of a resource XML?  
(a) findViewByIdByReference(int id)                      (b) findViewById(int id)  
(c) retrieveResourceById(int id)                      (d) findViewById(String id)
  - (3)      One of the application component, that manages application's background services is called  
(a) Activities                      (b) Broadcast Receivers  
(c) Services                      (d) Content Providers
  - (4)      The official IDE released for android development is called  
(a) Eclipse      (b) Net beans   (c) Java                      (d) Android Studio
  - (5)      The android component that manages the app's configuration file is called  
(a) manifest   (b) fragment   (c) view                      (d) intent
  - (6)      close() fuction in Sqlite is used for the:  
(a) To close the query                      (b) To close the table  
(c) To close the database                      (d) None of the above
  - (7)      What was the first phone released that ran the Android OS?  
(a) Google gPhone                      (b) Motorola Droid  
(c) T-Mobile G1                      (d) HTC Hero
  - (8)      Which objects stores the data only in key-value pair?  
(a) SharedPreferences                      (b) SQLiteDatabase  
(c) ContentProvider                      (d) None of the above
  - (9)      Which of the following is NOT a valid usage for Intents?  
(a) Activate an Activity                      (b) Activate a Service  
(c) Activate a Broadcast receiver      (d) Activate a SQLite DB Connection
  - (10)      Which configuration file holds the permission to use the internet?  
(a) Layout file                      (b) Property file  
(c) Java source file                      (d) Manifest file

- (11) What the following query does?, select count(\*) from table  
 (a) It return all rows data  
 (b) It return number of rows in table  
 (c) It return number of columns in table  
 (d) It will give an error
- (12) In android mini-activities are also known as  
 (a) Adapter (b) Activity (c) Fragments (d) None of the above

<b>Q.2</b>	<b>Attempt any eight of the following.</b>	<b>(16)</b>
(1)	Define Toast, Snackbar. Differentiate both.	
(2)	List out and define storage options in Android	
(3)	What is Android? How it is different than other platforms?	
(4)	List out and define Android application components.	
(5)	What is Layout? List out various types of Layout.	
(6)	Define Location API, Mobile GIS	
(7)	Define DDMS, AVD	
(8)	What are preferences?	
(9)	What is Simple Query and Action Query?	
(10)	What is Content Provider? List out various built-in content providers	
<b>Q. 3</b>	Write a note on Android Architecture.	<b>(08)</b>
	<b>OR</b>	
<b>Q.3</b>	Write a note on Android Activity Life Cycle.	<b>(08)</b>
<b>Q. 4</b>	List out common UI components of Android Studio. Explain any four in detail.	<b>(08)</b>
	<b>OR</b>	
<b>Q. 4</b>	Write a note on Intent in detail with example.	<b>(08)</b>
<b>Q. 5</b>	How to fetch current location in Android Studio. Explain with example.	<b>(08)</b>
	<b>OR</b>	
<b>Q. 5</b>	List out various types of menus present in Android. Explain all in detail.	<b>(08)</b>
<b>Q. 6</b>	Explain data interactions from Android to Database with different methods with example.	<b>(08)</b>
	<b>OR</b>	
<b>Q. 6</b>	Write a note on Fragments.	<b>(08)</b>

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**CVM UNIVERSITY**M.Sc. Geoinformatics, Sem-3<sup>rd</sup>

Examination November 2021

Course Code: 101400308,

Paper Title: Geoinformatics Application in Utility Management

Date: 19<sup>th</sup> Nov. 2021

Time: 10:00 AM to 12:00 PM

TOTAL MARKS: 60

[12]

Q. 1 (A) Answer the following multiple choice question.

- (1) Natural resources that cannot be replaced or reproduced is known as \_\_\_\_\_ .  
 (A) Renewable (C) Non Exhaustible  
 (B) Exhaustible (D) None of the above
- (2) \_\_\_\_\_ is type of water supply network in India.  
 (A) Branched (C) Both (A) & (B)  
 (B) Looped (D) None of the Above
- (3) From total water available on the earth, \_\_\_\_\_ water is Sea Water (saline).  
 (A) 0.01 % (C) 97.3 %  
 (B) 2.1 % (D) 100%
- (4) \_\_\_\_\_ units is used in GPGGA format to measure altitude from MSL and Geoid separation from NMEA data.  
 (A) K.M. (C) Meter  
 (B) Feet (D) None of above
- (5) For GIS based utility networks, first priority is \_\_\_\_\_ .  
 (A) Company safety (C) Financial safety  
 (B) Public safety (D) None of above
- (6) For GIS based Utility system, OSS stand for \_\_\_\_\_ .  
 (A) Open space system (C) Open support system  
 (B) Open Standard system (D) None of the Above
- (7) \_\_\_\_\_ is not a tool for data visualization.  
 (A) Datawarper (C) Table  
 (B) Google Chart (D) None of the Above
- (8) Based on material of construction of dams is classified in \_\_\_\_\_ classes.  
 (A) One (C) Two  
 (B) Three (D) None of the Above
- (9) Hospitals with beds up to 100 patient capacity consume \_\_\_\_\_ per day.  
 (A) 340 liter water per bed (C) 3400 liter water per hospital  
 (B) 150 liter water per bed (D) None of the Above
- (10) Waypoint Arrival Alarm data available under \_\_\_\_\_  
 (A) GPAAM (C) GPGGA  
 (B) GLAAM (D) None of above
- (11) URL means \_\_\_\_\_ .  
 (A) Union resource locator (C) Unique resource locator  
 (B) Universal resource locator (D) Uniform resource locator
- (12) URI means \_\_\_\_\_  
 (A) Union resource information (C) Uniform resource identifier  
 (B) Universal resource identifier (D) None of above

- Q.2 Answer the following.(attempt any Eight, each two marks) [16]**
- (1) Explain important of water for earth and human lives.
  - (2) Explain about end consumer indexing and its usage for GIS based utility planning.
  - (3) List the parameter for domestic Gas supply management using GIS.
  - (4) List advantages of GIS map over traditional paper map.
  - (5) List any 08 company who provide GIS base utility service.
  - (6) Explain importance of DEM for ground water planning.
  - (7) What is Geo tag picture?
  - (8) What are major challenges of water in India?
  - (9) Draw utility spatial data model.
  - (10) Give integration of SCADA & GIS.
- Q.3 Give Description of Utilities Services based on IoT & GIS as integration. [08]**  
**OR**  
Describe complete power transmission & Distribution network management using GIS. [08]
- Q.4 Explain working principal & importance of LIDAR System. [08]**  
**OR**  
How we can use RS & GPS Data in GIS based Utility planning? [08]
- Q.5 Discuss utility database visualization with example [08]**  
**OR**  
Write a note on utility browsing and user interfacing [08]
- Q. 6 Explain water shade development and modeling with domestics use and calculation of water. [08]**  
**OR**  
Explain in detail a classification of canal design, its types, and principle for canal network. [08]

-: All The Best:-