Master of Science – I (Geoinformatics) Examination: Oct / Nov 2016
Semester – I (New CBCS)

SLR No.	Day & Date	Time	Subject Name	Paper No.	Seat No.
SLR – SG - 500	Wednesday 16/11/2016	10.30 AM to 01.00 PM	Introduction To Geography	HCT 1.1	

Instructions:
1) **Answer any five questions.**
2) **All question carry equal marks.**
3) **Q.no. 1 is compulsory**
4) **Answer any two essay questions from no.2, 3 and 4.**
5) **Answer any two short answer questions from no. 5, 6 and 7.**
6) **Draw neat and labeled diagrams wherever necessary.**

Total Marks: 70

Q.1 Rewrite the following sentences by selecting correct answers from given alternative. **14**

1) Settlements on river banks are related to _____.
   a) Ground water b) topography
   c) Spring water d) None of these

2) _____ are characteristic of Savanna Environment.
   a) Short grasses and small trees b) Tall grasses and small scattered trees
   c) Tall grasses and tall trees d) Dens grasses and dense trees

3) The _____ horizon in soil is enriched in humus.
   a) A b) B
   c) C d) O

4) The _____ cycle represents interchange of water between air, land and sea.
   a) Hydrological b) Circulation
   c) Nitrogen d) Erosion

5) _____ were traditionally explained as land and sea breezes on a large scale.
   a) Westerlies b) Jet-streams
   c) Monsoons d) Trade winds

6) The liner food chain will interconnect to form _____
   a) Food cycle b) Food web
   c) Food energy d) Trophic structure

7) Strong point settlements are _____.
   a) Defensive settlements b) Liner settlement
   c) Pilgrim settlements d) Dry settlement

8) The regur soil is found in _____
   a) Malwa plateau b) Deccan plateau
   c) None of these options d) Both of these options

9) N.H.D. P. stands for _____
   a) National Highway Department Project
   b) National Highway Development Project
   c) Natural Highway Department Project
   d) Natural Highway Development Project

10) Kamet peak lies closer to _____ glacier.
   a) Gangotri
   b) Pindari
   c) Siachin
   d) Rimo

11) Mid latitudinal cyclones develop in conjunction with the _____
   a) Polar front
   b) Maritime front
   c) Tropical front
   d) Equatorial front

12) A suburb is _____
   a) An outer commutating zone of an urban area
   b) Associated with social homogeneity and lifestyle.
   c) The spread and growth of cities
   d) Both / option (a) and (b)

13) A winter time index-windehill uses _____ to calculate the human sensation of temperature.
   a) ail temperature
   b) rainfall and air temperature
   c) wind
   d) Wind and air temperature

14) The _____ is influenced by seasons and Jet streams.
   a) Troposphere
   b) stratosphere
   c) mesosphere
   d) Thermosphere

Q.2 Describe in detail the types and patterns of urban settlement. Add a note on their function and distribution. **14**

Q.3 Give an account of agro-climatic zones. **14**

Q.4 Explain the term 'transport' **14**

Q.5 **Write a brief account of-** **14**
   a) Types of clouds
   b) Soil Profile

Q.6 **Explain briefly:** **14**
   a) Grassland ecosystem
   b) Regional imbalances

Q.7 **Enumerate the following:** **14**
   c) Weather
   d) Town

Master of Science – I (Geoinformatics) Examination: Oct / Nov 2016
Semester – I (New CBCS)

SLR No.	Day & Date	Time	Subject Name	Paper No.	Seat No.
SLR – SG 501	Friday 18/11/2016	10:30 AM to 01:00 PM	Introduction To Geology	HCT 1.2	

Instructions:
1) **Answer any five questions.**
2) **All question carry equal marks.**
3) **Q.no. 1 is compulsory**
4) **Answer any two essay questions from no.2, 3 and 4.**
5) **Answer any two short answer questions from no. 5, 6 and 7.**
6) **Draw neat and labeled diagrams wherever necessary.**

Total Marks: 70

Q.1 Rewrite the following sentences by selecting correct answers from given alternative. **14**

1) Stratigraphy deals with the study of strata or. Rock layers _____
   a) Chronostratigraphy
   b) Lithostratigraphy
   c) Biostratigraphy
   d) Geo-chronology

2) A group of strata centrally uplifted and beds dipping away in all directions.
   a) Basin
   b) Dome
   c) Anticline
   d) None

3) Igneous rocks with high concentration of Mg and Fe are likely to have formed from, magmas originally derived form _____
   a) Sial
   b) Sima
   c) Mantle
   d) Outer core

4) What is the color of Lava at 1100^0C?
   a) Violet
   b) Red
   c) Orange
   d) Yellow

5) The underground water that occurs within the zone of aeration is termed _____
   a) Meteoric water
   b) Plutonic water
   c) Vadose water
   d) Connatye water

6) Hightest salinity found in _____
   a) Dead sea
   b) Indian ocean
   c) Pacific ocean
   d) Atlantic ocean

7) Plagioclase is the member of _____ group of rock forming minerals
   a) Olivine
   b) Mica
   c) Feldspar
   d) Amphibole

8) Find the odd one out
   a) Shale
   b) Limestone
   c) Marble
   d) Sandstone

9) The boundary between the upper and lower core lie at the depth of _____
   a) 100 Kms
   b) 2900Kms
   c) 5400 Kms
   d) 6300

10) A sedimentary layer whose thickness is less than one centimeter is known as _____
   a) Stratum
   b) Varve
   c) Lamina
   d) None of these

11) Sedimentary rocks are store house of _____
   a) Fossils
   b) Water
   c) Animals
   d) Soil

12) Which volcanic rock contains relatively high percentage of silica?
   a) Basalt
   b) Andesite
   c) Trachyte
   d) Rhyolite

13) The capacity of a rock to stands load is indicated by its _____ which is the load it will bear before being crushing strength.
   a) Crushing strength
   b) Durability
   c) Texture
   d) Porosity

14) A material which recovers fully after unloading but not instantaneously is known as _____
   a) Clastic
   b) Plastic
   c) Inelastic
   d) Elastic

Q.2 What is a Mineral? Give its physical properties and brief introduction minerals of silica and feldspar. **14**

Q.3 What is the Geological consideration for construction of dams and reservoirs? **14**

Q.4 What are different agents of metamorphism? Discuss their role in formation of metamorphic rocks? **14**

Q.5 **Write shorts notes on-** **14**
a) Copper deposits in India
b) Coal deposit in India

Q.6 **Explain briefly:** **14**
a) Classification of Igneous Rocks
b) Grades textures and structure of metamorphic rocks.

Q.7 **Bring out the salient aspects the following:** **14**
a) Clinometers compass and its uses
b) Folds and faults

Master of Science – I (Geoinformatics) Examination: Oct/Nov 2016
Semester – I (New CBCS)

SLR No.	Day & Date	Time	Subject Name	Paper No.	Seat No.
SLR – SG – 502	Monday 21/11/2016	10.30 AM to 01.00 PM	Geomorphology	HCT 1.3	

Instructions:
1) **Objective question is compulsory.**
2) **All question carry equal marks.**
3) **Answer any two essay questions from no.2, 3 and 4.**
4) **Answer any two questions from no. 5, 6 and 7.**

Total Marks: 70

Q.1 Rewrite the following sentences by selecting correct answers from given alternative. **14**

1) _____ is defined as the science of description of various forms of earth surface.
   a) Geography b) Geology
   c) Geomorphology d) Pedology

2) _____ is a function of structure, process & time.
   a) Erosion b) Landscape
   c) Weathering d) Disposition

3) Which are the landscapes formed by glacier
   a) Drumlins b) Moraines
   c) Eskers d) All the above

4) Karst topography generally develop in _____ topography
   a) Limestone b) Granitic
   c) Metamorphic d) Mountanous

5) The Geomorphological study is help full in the construction of
   a) Road b) Dams
   c) Reservoir d) All the Above

6) Mushroom- shaped landform formed by wind erosion ____
   a) Ventifacts b) Brazil nuts
   c) Pedestal rock d) Drass

7) In a deltaic structure, the topset beds consists of
   a) Fine material b) Coarse material
   c) Course & fine material d) None of the limestone

8) The dripstones hanging from the top of the limestone cares are called_____
   a) Stalactites b) stalagmites
   c) Stylolites d) Geodes

9) Soils in which sand, clay and humus are found more or less in equal properties are called as _____
   a) Loamy soils
   b) Regur
   c) Chernozem
   d) Pedalfer

10) Which of the following dunes appear U- shaped in plain view?
   a) Barchans
   b) Parabolic dunes
   c) Seifs
   d) Dome dunes

11) Cycle concept first postulated in geology by Scottish geologist _____ in 1785.
   a) Davis
   b) Johnson
   c) J. Hutton
   d) W. Penk

12) Consequenent streams are the _____ streams to be originated in a particular region.
   a) First
   b) Second
   c) Third
   d) Forth

13) _____ is the ridge like depositional feature of glacial hills.
   a) Cirques
   b) Drumlins
   c) Horn
   d) Moraines

14) The end product of weathering is _____
   a) Soil
   b) Gravel
   c) Rock
   d) None of the above

Q.2 Describe nature and scope of geomorphology. **14**

Q.3 Define weathering. Explain in detail mechanical weathering. **14**

Q.4 Explain in detail about Karst topography. **14**

Q.5 **Write shorts notes on-** **14**
a) Continental drift
b) Erosional Land forms formed by River.

Q.6 **Discuss in briefly:** **14**
a) Types of drainage system
b) Disaster management

Q.7 **Write in brief:** **14**
a) Delta
b) Sand dunes & its types

Master of Science – I (Geoinformatics) Examination: Oct / Nov 2016
Semester – I (New CBCS)

SLR No.	Day & Date	Time	Subject Name	Paper No.	Seat No.
SLR – SG – 503	Wednesday 23/11/2016	10.30 AM to 01.00 PM	Computer Application in Earth Science	SCT- 1.1	

Instructions:
1) **Answer Any Five question.**
2) **Question 1 is compulsory.**
3) **All question carry equal marks.**
4) **Answer any two essay questions from no.2, 3 and 4.**
5) **Answer any two questions from no. 5, 6 and 7.**
6) **Draw neat and labeled diagram wherever necessary.**

Total Marks: 70

Q.1 Rewrite the following sentences by selecting correct answers from given alternative. **14**

1) An _____ is an interface between computer uses and computer hardware.
   a) Operating system
   b) System software
   c) Network system
   d) None of these

2) LAN stands for _____
   a) Local Another Network
   b) Local Area Network
   c) Low Area network
   d) Loading Area network

3) A data base system is basically just a _____ record keeping system.
   a) Computerized
   b) Localized
   c) Mechanized
   d) None of theses

4) A _____ operating system runs on a server on a server and provides the server the capability to manage data users, groups, security and other networking functions.
   a) Network
   b) Batch Processing
   c) Time sharing
   d) None of these

5) Physical database scheme is into the _____ storage data.
   a) Normally
   b) Physically
   c) Actual
   d) None of these

6) _____ key provides the basic type – level addressing mechanism in a relational system.
   a) Candidate key
   b) Alternative key
   c) Primary key
   d) Names of these

7) _____ means of password and similar other techniques, it prevents unauthorized access to programs and data.
   a) Authorization
   b) License
   c) Security
   d) None of these

8) DBMS is _____ designed to define, manipulate, retrieve and manage, data in a database.
   a) Software packing
   b) Application packaged
   c) Unix packaged
   d) Linux packaged

9) Multiprogramming is technique to execute number of programs simultaneously by a _____ processor.
   a) Multi
   b) Single
   c) Tripple
   d) All of these

10) _____ is not a valid relational database.
   a) SYBASE
   b) ORACLE
   c) IMS
   d) UNIFY

11) The MS-operating system is originally developed by Microsoft for _____
   a) IBM
   b) IAM
   c) ICM
   d) IRS

12) _____ is responsible for installation, configuration, up gradation, administration, monitoring and maintenance of database.
   a) A database system
   b) Database management
   c) Database Administrator
   d) All of these

13) The original ASCII code used _____ bits of each byte reserving that last bit for error checking
   a) 5
   b) 6
   c) 7
   d) 256

14) Hybrid schemes defined as a dimension table is shared by_____ fact tables.
   a) One or Two
   b) Two or more
   c) More to more
   d) All of these

Q.2 Explain types of operating system and advantages of windows operating system. **14**

Q.3 Define DBMS. Explain its advantages and functions. **14**

Q.4 Explain in detail the input and output devices of computer. **14**

Q.5 **Write shorts notes on-** **14**
   a) Internet
   b) Mother Board

Q.6 **Discuss in briefly:** **14**
   a) Storage Derive
   b) RAM

Q.7 **Write in brief:** **14**
   a) Properties of computer
   b) Programming language

Master of Science – I (Geoinformatics)Examination: Oct / Nov 2016
Semester – II (New CBCS)

SLR No.	Day & Date	Time	Subject Name	Paper No.	Seat No.
SLR – SG – 509	Thursday 17/11/2016	10.30 AM to 01.00 PM	Introduction to Remote Sensing	I	

Instructions:
1) **Answer any five questions.**
2) **All questions carry equal marks.**
3) **Q.1 is compulsory.**
4) **Attempt any two from Q. 2, 3 & 4**
5) **Attempt any two from Q. 5, 6 & 7**
6) **Draw neat and labeled diagrams wherever necessary.**

Total Marks:70

Q.1 Select the answer among the following: **14**

1) Remote sensing systems which measures the naturally available energy are called as _____
   a) Active sensors b) Passive sensors
   c) Productive sensors d) Negative sensors

2) The instrument which provides electromagnetic radiation of specified wave length or a band of wave length to illuminate the earth surface are called ____
   a) Sensor b) Passive sensors
   c) Active sensor d) None of these

3) Electromagnetic radiation _____
   a) Produces a time varying magnetic field and vice versa
   b) Once generated, remains self-propagating
   c) Is capable to travel across space
   d) Consist of magnetic and electric fields.
   e) All of these

4) The refractive index of the ocean water _____
   a) Increases with salinity b) Increases with temperature
   c) Decreases with salinity d) Decreases with temperature

5) _____refers to the relative brightness or colour of objects in an image.
   a) Texture b) Pattern
   c) Shape d) None

6) Water absorbs ____ radiation strongly leaving little radiation to be either reflected or transmitted.
   a) NIR b) MIR
   c) Visible d) Both NIR and MIR

7) _____the following is an air-borne hyperspectral sensor.
   a) MODIS b) AVIRIS
   c) CHRIS d) Hyperion

8) The ability of a portion of a developed film to pass light is called its _____
   a) Transmittance b) Reflectance
   c) Radiance d) None of the above

9) _____scattering occurs when particles are very small compared to wavelength of radiation.
   a) Mie
   b) Radio
   c) Non Selective
   d) Rayleigh

10) Wavelength ranges of visible spectrum is _____
   a) 0.3 - 0.38
   b) 0.4 to 0.7
   c) 0.7 - 10
   d) 10 - 100

11) An Image can either be in analog _____
   a) Hard copy
   b) Digital form
   c) Free form
   d) All of above

12) An Electromagnetic radiation of wavelength 0.56 micron falls under which portion of spectrum.
   a) Infra Read
   b) Visible
   c) Microwave
   d) Radiowave

13) Bodies having high thermal inertia have _____tendency to change their temperature easily.
   a) High
   b) No
   c) Less
   d) None of the above

14) _____ refers to the relative density of objects in an image.
   a) Texture
   b) Pattern
   c) Shape
   d) None

Q.2 What do you mean by Remote Sensing? Explain the principles of Remote Sensing. **14**

Q.3 Explain the nature of electromagnetic radiation and add a note on electromagnetic spectrum. **14**

Q.4 Explain the principles of Satellite Motion. What do you mean by Geosynchronous and geostationary orbit? **14**

Q.5 **Write a short note on the following:** **14**
A) Limitation of GIS
B) Thermal Sensors

Q.6 **Explain in short:** **14**
A) Image interpretation
B) Aerial Photography

Q.7 **Describe in brief:** **14**
A) Spectral reflectance of vegetation, soil and water
B) Energy interaction with atmosphere

Master of Science – I (Geoinformatics)Examination: Oct/Nov 2016
Semester – II (New CBCS)

SLR No.	Day & Date	Time	Subject Name	Paper No.	Seat No.
SLR – SG – 511	Tuesday 22/11/2016	10:30 AM To 01:00 PM	Introduction to Geographical Information System & GPS	III	

Instructions:
1) **All Questions are compulsory.**
2) **Question 1 is compulsory.**
3) **Answer any two essay questions from 2,3,4**
4) **Answer any two short note questions from 5,6,7**
5) **Draw neat & labeled diagram wherever necessary.**

Total Marks:70

Q.1 Fill in the blanks with appreciate choice. **14**

1) Data that describe the characteristics of spatial features is ----------.
   a) Coverage b) Vector
   c) Spatial d) Aspatial

2) Satellite orbits are inclined at an angle of 55^{o} from ----------.
   a) Equator b) Specific latitude
   c) Greenwich meridian d) North pole

3) DPI means----------.
   a) Distance per inch b) DOT per inch
   c) Distance per information d) None of these

4) Father of GIS is ----------.
   a) Vikram Sarabhai b) Jack Dangermond
   c) Roger Tomlinson d) None of these

5) ---------- format is a popular geospatial vector data format for geographic information system (GIS) software.
   a) .shp b) .jpj
   c) .dwq d) None of these

6) ---------- of the following is not a use of GIS.
   a) Locating traffic accidents b) Locating utility poles
   c) Measuring weather data d) Traffic pattern analysis

7) GIS is capable of ---------- spatially referred data of the earth.
   a) Integrating b) Analyzing
   c) Storing d) All of the above

8) It takes ---------- a GPS satellite to orbit the earth.
   a) 12 hr b) 16
   c) 14 d) 18

9) You are ---------- close to your actual position can a GPS receiver measure.
   a) Within 1000 m b) Within 10 m
   c) Within 100 m d) Within 1 m

10) Aspects of GIS system do NOT include ----------.
   a) Legal representation a physical location
   b) Cartography and remote sensing
   c) Photogrammetry and geography
   d) Land surveying and mathematics

11) Attribute data are one type of spatial data ----------.
   a) True
   b) False
   c) True only in case of discrete data
   d) None of a above

12) ---------- is known as georeferencing.
   a) Aligning your data with a location on the Earth's surface
   b) Converting data to a feature class
   c) Projecting your data so that it has no distortion
   d) None of above

13) Spatial data can be described as ----------.
   a) Data containing an area attribute
   b) Data that has a geographic element
   c) Data concerned with measurements
   d) None of above

14) One of the following statements is not correct ----------.
   a) GIS technology is capable to study the environmental surrounding
   b) GIS technology is a tool box processing maps and fundamental concepts for spatial measurement
   c) GIS technology contains analytic capabilities for overlaying maps
   d) GIS technology is the same as traditional mapping

Q.2 Define Topology and explain in details with examples. **14**

Q.3 Define GPS and give its applications in detail. **14**

Q.4 Give the list of error in spatial data editing. **14**

Q.5 **Write short note on:** **14**
a) Geographic reference
b) Spatial data structures

Q.6 **Write in brief on:** **14**
a) Vector data model
b) History of GIS

Q.7 **Write small account on:** **14**
a) Projection and coordinate system
b) Errors in GIS database

Master of Science – I (Geoinformatics)Examination: Oct/Nov 2016
Semester – II (New CBCS)

SLR No.	Day & Date	Time	Subject Name	Paper No.	Seat No.
SLR – SG - 512	Thursday 24/11/2016	10.30 AM to 01.00 PM	Digital Image Processing	IV	

Instructions:

1) **Answer any five questions.**
2) **All questions carry equal marks.**
3) **Q.1 is compulsory.**
4) **Attempt any two from Q.2, 3 & 4**
5) **Attempt any two from Q.5, 6 & 7**
6) **Draw neat and labeled diagrams wherever necessary.**

Total Marks:70

Q.1 Select the answer among the following: **14**

1) The main objectives of _____ operation is to replaced visual analysis of the image data with quantitative techniques for automating the identification of feature in a scene.
   a) Image classification b) Image rectification
   c) Image enhancement d) Image processing

2) Enhancement techniques are _____
   a) Contrast stretch b) Density slicing
   c) Edge enhancement d) All of the above

3) Training stage, classification stage, output stage are the stages of _____
   a) Image rectification b) Unsupervised classification
   c) Supervised classification d) Image enhancement

4) Replacement by either the preceding or succeeding line is the method of ____
   a) Geometric correction b) Radiometric correction
   c) Noise removal d) Classification

5) _____errors correspond to non diagonal column elements.
   a) Commission b) Omission
   c) Kappa d) All of the above

6) _____enhancement techniques expand the range of brightness values in an image.
   a) Contrast b) Histogram equalization
   c) Density Slicing d) None of these

7) _____errors are caused by detector imbalance and atmospheric deficiencies.
   a) Radiometric b) Geometric
   c) FCC d) None of these

8) The transformation of a remotely sensed image so that it has a scale and projections of a map is called _____
   a) Geometric Corrections b) Radiometric Corrections
   c) Atmospheric Corrections d) Noise Corrections

9) Distortions whose effects are systematic in nature and are constant and can be predicted in advance are called _____
   a) Non-systematic distortion
   b) Radiometric Correction
   c) Systematic distortion
   d) Noise Correction

10) _____format maintains all data for a single band covering entire scene as one file.
   a) BIL
   b) BSQ
   c) BIP
   d) Geo-TIFF

11) _____classifiers do not utilize training data as the basis for classification.
   a) Unsupervised
   b) Supervised
   c) Error Matrix
   d) None of these

12) Nearest neighbor, bilinear interpolation techniques, cubic convolution are the methods of _____
   a) Georeferencing
   b) Reprojecting
   c) Resampling
   d) None of the above

13) _____also known as confusion or contingency table.
   a) Classification error matrix
   b) Error matrix
   c) Kappa-co-efficient
   d) None of the above

14) _____enhancement techniques expand the range of brightness values in an image.
   a) Contrast
   b) Histogram equalization
   c) Density Slicing
   d) None of these

Q.2 What is image classification? Explain the some classification algorithms. **14**

Q.3 What is digital image? Discuss digital image data formats and image processing systems. **14**

Q.4 Explain the various image enhancement techniques. **14**

Q.5 **Write a short note on the following:** **14**
A) Advantage and disadvantage of unsupervised classification
B) Contingency table

Q.6 **Write in brief on:** **14**
A) Noise Removal
B) Radiometric Correction

Q.7 **Write small account on:** **14**
A) Histogram equalization
B) Density Slicing

Master of Science – II (Geoinformatics) Examination:
Oct / Nov 2016 Semester – III (New CBCS)

SLR No.	Day & Date	Time	Subject Name	Paper No.	Seat No.
SLR – SG–521	Wednesday 16/11/2016	02.30 PM To 05.00 PM	Spatial Analysis	I	

Instructions:
1) **Answer Any Five question.**
2) **Question 1 is compulsory and should answer in the question paper.**
3) **All question carry equal marks.**
4) **Answer any two essay questions from no.2, 3 and 4.**
5) **Answer any two questions from no. 5, 6 and 7.**
6) **Draw neat and labeled diagram wherever necessary.**

Total Marks: 70

Q.1 Rewrite the following sentences by selecting correct answers from given Alternative. **14**

1) _____ generates a grid in which each grid cell represents the cost to travel to that grid cell from the nearest of the one or more start locations.
   a) 3D Analysis
   b) Cost surface Analysis
   c) Network Analysis
   d) None of these
2) _____functions that work on every single cell.
   a) Focal
   b) Global
   c) Local
   d) Zonal
3) Network connectivity can be examined by constructing a matrix set called_____
   a) D matrices
   b) C Matrices
   c) B matrices
   d) None of theses
4) _____ is following not Boolean logic operation.
   a) +
   b) OR
   c) AND
   d) NOT
5) _____ Operations are procedures, which corresponds to queries and alterations of data that operate on a single data layer.
   a) Multiple layer
   b) Overlay
   c) Single layer
   d) None of these
6) MAT stands for _____
   a) Medial Axis transformation
   b) Mean Axis transition
   c) Mode Axis transformation
   d) Median Axis transmitter
7) DTM stands for _____
   a) Digital Terrain mater
   b) Distance Terrain model
   c) Digital Terrain model
   d) Distance Terrain meter
8) _____ is a high level computational language used for performing cartographic spatial analysis using raster data.
   a) C
   b) CPP
   c) Map algebra
   d) All of above.

9) _____ approximates the surface with a series of non-overlapping triangles.
   a) DEM
   b) TIN
   c) DTM
   d) None of these

10) _____ is not direction that a slope faces.
   a) Aspect
   b) Slope
   c) Shadow
   d) Hill shade

11) The _____ is based on the length of the route.
   a) Shortest path
   b) Fastest path
   c) Optimal path
   d) Source destination path

12) Number of point features occurring on the map means _____
   a) Density
   b) Frequency
   c) NNI
   d) Spatial distribution

13) Digital representation of the continuous variation of relief over space is known as _____
   a) DEM
   b) TIN
   c) Fractural
   d) None of these

14) Larger NNI value represented by _____
   a) Random pattern
   b) Clustered pattern
   c) Scattered pattern
   d) None of these

Q.2 Explain in details tool of Geo-processing? **14**

Q.3 What is 3D analysis? Explain the contents of surface analysis. **14**

Q.4 What is point pattern analysis? Explain the types of spatial model? **14**

Q.5 **Write shorts notes on-** **14**
   a) Universal Transverse Mercator
   b) Local & Focal operation.

Q.6 **Write in brief on:** **14**
   a) Multi-layer operation
   b) Rasterization

Q.7 **Write small account on:** **14**
   a) Normative model
   b) Overlay operation

Master Of Science – II (Geoinformatics)
Examination: Oct / Nov 2016 Semester – III (New CBCS)

SLR No.	Day & Date	Time	Subject Name	Paper No.	Seat No.
SLR – SG–522	Friday 18/11/2016	02.30 PM To 05.00 PM	Advanced Techniques in Remote Sensing	II	

Instructions:
1) **Answer Any Five question.**
2) **Question 1 is compulsory.**
3) **All question carry equal marks.**
4) **Answer any two essay questions from no.2, 3 and 4.**
5) **Answer any two questions from no. 5, 6 and 7.**
6) **Draw neat and labeled diagram wherever necessary.**

Total Marks: 70

Q.1 Rewrite the following sentences by selecting correct answers from given alternative. **14**

1) The arrangement of terrain features which provides attributes: the shape, size and texture of objects , is called _____
   a) Spectral variation b) Spatial variation
   c) Temporal variation d) None
2) A _____ is a theoretical construct that absorbs all the radiation that fall on it and radiates energy at the maximum possible rate per unit area.
   a) Blackbody b) Kinetic heat
   c) Emissivity d) all the above
3) In radar imaging, the direction of orientation in which the electrical field vector of electromagnetic radiation vibrates is called _____
   a) Foreshortening b) speckle
   c) layover d) polarization
4) Expand JERS.
   a) Japanese electromagnetic remote sensing
   b) Japanese earth radar system
   c) Japanese earth resource satellite
   d) None
5) Passive remote sensing record _____ energy that is reflected or emitted from the earth surface.
   a) Kinetic b) Solar
   c) Electromagnetic d) Sound
6) Satellites travelling at the angular velocity at which the earth rotates, as a result, they remain above the same point on earth at all times is a _____
   a) Polar orbiting satellite b) GPS satellite
   c) High resolution satellite d) None
7) From space borne platforms, the _____ is mainly used to measure the ocean surface winds speed and direction.
   a) Scatteroneter b) Radiometer
   c) Thermometer d) none
8) A. H. Taylor and L.C. young were the first in 1922 to investigate _____.
   a) SAR b) RADAR
   c) SCAR d) RAR

9) MODIS stands for _____
   a) Moderate resolution imaging spectro radiometer
   b) Multi-image resolution spectro radiometer
   c) Multiple optical resolution spectro radiometer
   d) Morphed image revolving spectro radiometer
10) Name the technique that is useful for the compression and classification of data
   a) PCA
   b) Supervised
   c) Unsupervised
   d) HIS
11) Imm to Im range of wavelength in the spectrum is used for.
   a) LIDAR
   b) Passive remote sensing
   c) Microwave remote sensing
   d) None
12) LIDAR means
   a) Linear selecting and ranging
   b) Light selecting and ranging
   c) Look detecting and ranging
   d) None
13) Find the odd one out
   a) LONOSAT
   b) ENVISAT
   c) SEASAT
   d) LISS
14) What is the altitudinal range of geostationary satellite
   a) 20200 KM
   b) 3600 KM
   c) 2600 KM
   d) None

Q.2 Explain with a illustrative diagram synthetic aperture radar. **14**

Q.3 Describe the properties of ERS-1 and JERS-1 **14**

Q.4 Explain the planck radiation law and add a note on wien's displacement law. **14**

Q.5 **Write briefly on the following-** **14**
a) Parallax
b) Radiometer.

Q.6 **Enumerate briefly on the following:** **14**
a) Radar interpretation
b) Image fusion

Q.7 **Write short notes on the following:** **14**
a) Atmospheric transformation
c) Significance a of thermal IR sensors.

Master of Science – II (Geoinformatics)Examination: Oct / Nov 2016 Semester – III (New CBCS)

SLR No.	Day & Date	Time	Subject Name	Paper No.	Seat No.
SLR – SG - 523	Monday 21/11/2016	02:30 PM To 05:00 PM	Advanced Techniques in GIS	III	

Instructions :

1) **All Questions are compulsory.**
2) **Question 1 is compulsory.**
3) **Answer any two essay questions from 2, 3, 4**
4) **Answer any two short note questions from 5, 6, 7**
5) **Draw neat & labeled diagram wherever necessary.**

Total Marks:70

Q.1 Fill in the blanks with appreciate choice. **14**

1) AHP stands for ----------.
   a) Analysis High program
   b) Analytic High parameters
   c) Analytical Hierarchy process
   d) All of the above

2) DSC stands for ----------.
   a) Department of Science & space
   b) Decision support system
   c) Both (a) and (b)
   d) All of the above

3) DEM has ---------- bands.
   a) Multispectral
   b) Panchromatic
   c) Hyperspectral
   d) All of the above

4) ---------- allows users to share & edit geospatial desta.
   a) Geoserver
   b) GDAL
   c) ENVI
   d) Geosolt

5) A digital elevation model (DEM) is a digital model or ---------- representation of terrain surface.
   a) 2D
   b) 3D
   c) 4D
   d) None

6) The DEM could be acquired through techniques such as ----------
   a) Photogrammetry
   b) LIDAR
   c) SAR
   d) All of the above

7) The use of location technology as a form of GIS 'output' is known as ----------.
   a) Location based server
   b) Location facilitating service
   c) Local based service
   d) All of the above

8) MCDM stands for ----------
   a) Major component Decision machine
   b) Micro criteria direct method
   c) Multi center direct method
   d) Multi criteria Decision method

9) ---------- is not interpolation method.
   a) IDN
   b) Krigging
   c) Dissolve
   d) Spline

10) The data derived from any interpolation method is only ------ of what the real values should be at a particular location.
   a) Sum
   b) an estimate
   c) Difference
   d) None

11) TIN is a method of spatial interpolation oftenly used to generate ----------.
   a) Georeferranced map
   b) Digital terrain model
   c) Climate map
   d) Watershed

12) ---------- the procedure for estimating the values of properties at unsampled sites within an area covered by existing observations.
   e) Spatial Data management
   f) Spatial interpolation
   g) Geospatial analysis
   h) All of the above

13) Geography markup language is an ---------- based encoding standard for geographic information.
   a) KMI
   b) XMI
   c) XLS
   d) All of the above

14) KML stands for ----------.
   a) Keyhole markup language
   b) Keychain markup language
   c) Kind mark language
   d) All of the above

Q.2 Explain in detail Web GIS & Virtual GIS? **14**

Q.3 What is the importance of multi criteria decision analysis in geospatial sciences? **14**

Q.4 Give an account of interpolation & its types? **14**

Q.5 **Write short note on:** **14**
a) Location based service in GIS.
b) Concept of data mining

Q.6 **Write in brief on:** **14**
a) Cloud computing
b) MSS

Q.7 **Write small account on:** **14**
a) AHP
b) Ranking method

Master of Science – II (Geoinformatics)
Examination: Oct / Nov 2016 Semester – III (New CBCS)

SLR No.	Day & Date	Time	Subject Name	Paper No.	Seat No.
SLR – SG – 524	Wednesday 23/11/2016	02:30 P.M To 05:00 P.M	Introduction to Statistical Methods	IV	

Instructions:
1) **Answer Any Five question.**
2) **Question 1 is compulsory.**
3) **All question carry equal marks.**
4) **Answer any two essay questions from no.2, 3 and 4.**
5) **Answer any two questions from no. 5, 6 and 7.**
6) **Draw neat and labeled diagram wherever necessary.**

Total Marks: 70

Q.1 Rewrite the following sentences by selecting correct answers from given alternative. **14**

1) Statistics may be called the science of counting and the definition is given by _____
   a) Croxton
   b) A.L. Bowley
   c) Boddington
   d) Webster

2) If each and every unit of population has equal chance of being include in the sample, it is knows as _____
   a) Restricted sampling
   b) Purposive sampling
   c) Simple random sampling
   d) None of the above

3) Fine establishments are to be selected from a list of 50 establishments by systematic random sampling. If the first number is 7,The next is _____
   a) 8
   b) 16
   c) 17
   d) 21

4) When the collected data is grouped with reference to time, it is _____
   a) Quantitative classification
   b) Qualitative classification
   c) Geographical classification
   d) Chronological classification

5) In case of positive skewed distribution, the extreme values lie in _____
   a) Left tail
   b) Right tail
   c) Middle
   d) Through out of distribution

6) The coefficient of correlation is _____
   a) Cannot be negative
   b) Cannot be positive
   c) Always positive
   d) Either positive or negative

7) Correlation coefficient is independent of charge of _____
   a) origin
   b) scale
   c) origin and scale
   d) none of the above

8) If the grouped data has open-end classes, calculation of _____ is not possible.
   a) Medium
   b) Mode
   c) Mean
   d) Quartile

9) Shoe size of most of the people in India is No.7. The measure of central tendency that this statistical distribution represents is _____
   a) Mean
   b) Secondary quartile
   c) Eighth decile
   d) Mode

10) Sum of the deviation about a mean is _____
   a) Zero
   b) Minimum
   c) Maximum
   d) Unity

11) A sample survey was counted with 95% confidence limits. The error in the survey is _____
   a) 5%
   b) 10%
   c) 15%
   d) Cannot be detrained

12) A normal distribution is not skewed when _____.
   a) Mode > Mean
   b) Mean < Mode
   c) Mean + Mode = 0
   d) Mode – Mean = 0

13) If two event A and B are independent then their joint Probability is _____
   a) $\frac{P(A)}{P(B)}$
   b) $P(A).P(B)$
   c) $P(A) + P(B)$
   d) $P(A)^{P(B)}$

14) In a distribution standard deviation is 6 the observations are multiplied by 2. Than the standard deviation of this new set is _____
   a) 12
   b) 6
   c) 18
   d) 6

Q.2 What is shewners? What are the meaxres of shewners? **14**

Q.3 Define mean, medium and mode. Explain the types of mean. **14**

Q.4 Explain the concept of probability and theorems associated with probability. **14**

Q.5 **Write shorts note on-** **14**
   a) Stratified sampling
   b) Nature of data

Q.6 **Write shorts note on-** **14**
   a) Mode
   b) Quartiledeviation

Q.7 **Enumerate the following:** **14**
   a) Mean deviation
   b) Kurtosis

Master of Science – II (Geoinformatics)Examination: Oct/Nov 2016
Semester – IV (New CGPA)

SLR No.	Day & Date	Time	Subject Name	Paper No.	Seat No.
SLR – SG – 526	Thursday 17/11/2016	02:30 PM to 05:00 PM	Information Technology and Management	I	

Instructions:
1) **Answer any five questions.**
2) **All questions carry equal marks.**
3) **Q.1 is compulsory.**
4) **Attempt any two from Q.2, 3 & 4**
5) **Attempt any two from Q.5, 6 & 7**
6) **Draw neat and labeled diagrams wherever necessary.**

Total Marks:70

Q.1 Select the answer among the following: **14**

1) C programming language was developed by _____
   a) Dennis Ritchie b) Ken Thompson
   c) Bill Gates d) Peter Norton

2) For taking decisions data must be _____
   a) Very accurate b) Massive
   c) Processed correctly d) Collected from diverse sources

3) Which of the following performs modulation and demodulation?
   a) Fiber optics b) Satellite
   c) Coaxial cable d) Modem

4) Every computer on the Internet has a unique numeric address called_____
   a) a protocol b) an IP address
   c) a bandwidth d) a server

5) Artificial Intelligence is associated with which generation?
   a) First Generation b) Second Generation
   c) Fifth Generation d) Sixth Generation

6) A computer program that converts an entire program into machine language at one time is called a/an _____
   a) Interpreter b) CPU
   c) Compiler d) Simulator

7) C, C++ and Java are examples of _____
   a) Programming device b) Programming language
   c) Programming data d) Assembly language

8) C was developed in the year _____
   a) 1960 b) 1972
   c) 1976 d) 1980

9) GIS software is a typical example of _____
   a) DSS b) KWS
   c) TPS d) MIS

10) _____operating system does not have a graphical user interface.
   a) Window 95 b) Mac OS
   c) Linux d) MS Dos

11) The extensions .gov, .edu and .net are called _____
   a) DNSs b) e-mail targets
   c) domain codes d) mail to addresses

12) The National IT Task Force aimed India to become _____
   e) Market Economy f) Economy of goods
   g) Versatile economy h) Knowledge economy

13) _____state was not included in the survey conducted by NASSCOM
   a) Maharashtra b) Andhra Pradesh
   c) Madhya Pradesh d) Arunachal Pradesh

14) The Prime Minister of India constituted a National Task Force on IT and Software Development in _____
   a) May 1998 b) May 1999
   c) June 1998 d) June 1999

Q.2 What is Information Technology? Describe the impact of Information Technology on Societal development in detail. **14**

Q.3 What are different types of networking, explain with suitable examples. **14**

Q.4 Define Information System. Write a detailed note on Classification of Information System. **14**

Q.5 **Write brief account on:** **14**
A) Strategic planning
B) Expert Systems

Q.6 **Write short note on:** **14**
A) TPS
B) Radiometric Correction

Q.7 **Enumerate the following:** **14**
A) Internet B) IT audit

Master of Science – II (Geoinformatics)Examination: Oct/Nov 2016
Semester – IV (New CGPA)

SLR No.	Day & Date	Time	Subject Name	Paper No.	Seat No.
SLR – SG – 527	Saturday 19/11/2016	02.30 PM to 05.00 PM	Geoinformatic Approach For Natural Resource Management	II	

Instructions:
1) **Answer any five questions.**
2) **All questions carry equal marks.**
3) **Q.1 is compulsory.**
4) **Attempt any two from Q.2, 3 & 4**
5) **Attempt any two from Q.5, 6 & 7**
6) **Draw neat and labeled diagrams wherever necessary.**

Total Marks:70

Q.1 Select the answer among the following: **14**

1) NDWI stands for _____
   a) Normal Diurnal Wide Intensity
   b) Normalized Difference Water Index
   c) Normal Day-time Virtual Intensity
   d) Normalized Difference Vegetation Index

2) _____is following satellite series concerned USA.
   a) IRS b) Spot
   c) landsat d) JRS

3) _____are used to measure sea surface temperature.
   a) NOAA b) GOES
   c) MODIS d) All of the above

4) FCC image agriculture shown on _____color.
   a) Green b) Red
   c) Black d) Blue

5) Mention the satellite image available free of cost on internet
   a) LISS IV b) Landsat - 8
   c) Quick bird d) All of the above

6) Tropical rainforests are found near the _____
   a) Equator b) North pole
   c) South pole d) None of these

7) TIN stands for _____
   a) Triangular Indian Network b) Triangular Irregular Network
   c) Triangular Indicating Network d) None of these

8) Vegetation indices which are based upon _____ attempt to measure biomass or vegetative cover.
   a) Moisture content b) Satellite data
   c) Canopy d) Digital Brightness Value

9) _____band width best for agriculture and regretion mapping.
   a) VIR b) NIR
   c) Radio d) X-ray

10) _____band useful for the soil moisture measurement.
   a) Microwave b) Radiowave
   c) Vigiblewave d) None of these

11) The _____ NIR and MIR bands are ideal for identifying the oxbow lakes and the more geologically recent flooded meander scars, which are barely discernible in the green and red band image.
   a) Landsat TM b) Landsat MSS
   c) Landsat ETM d) Landsat ETM+

12) Percentage or degree change in elevation over a defined distance _____
   a) Aspect b) View shed
   c) Slope d) Signature

13) _____is non-degradable waste.
   a) Radioactive minerals b) Wood
   c) Paper d) Metal

14) NDVI is the measure of _____
   a) Greenness b) Temperature
   c) Water d) None of these

Q.2 Write down case study of GIS and remote sensing application for soil erosion assessment. **14**

Q.3 Explain application of R S and G I S in marine ecology. **14**

Q.4 What is land evaluation? Write process of agriculture and non agriculture land mapping. **14**

Q.5 **Write note on:** **14**

A) Land use/land cover mapping

B) Morphometric analysis

Q.6 **Write brief on:** **14**

A) Write down methodology of fire forest mapping.

B) Advantages of R S and GIS in soil mapping.

Q.7 **Write small account on:** **14**

A) Potential fishing zone mapping

B) Forest classification

Master of Science – II (Geoinformatics)
Examination: Oct / Nov 2016 Semester – IV (New CGPA)

SLR No.	Day & Date	Time	Subject Name	Paper No.	Seat No.
SLR – SG - 528	Tuesday 22/11/2016	02.30 PM To 05.00 PM	Application of Remote Sensing and GIS	III	

Instructions:
1) **Answer any five questions.**
2) **All questions carry equal marks.**
3) **Q.1 is compulsory.**
4) **Attempt any two from Q.2, 3 & 4**
5) **Attempt any two from Q.5, 6 & 7**
6) **Draw neat and labeled diagrams wherever necessary.**

Total Marks:70

Q.1 Select the answer among the following: **14**

1) _____sensor will help in the detection of surface Temperature.
   a) Microwave
   b) Visible range
   c) None
   d) Thermal IR

2) Atmospheric temperature and Humidity profiles are measured using _____ satellite.
   a) LISS
   b) INSAT-3D
   c) MODIS
   d) SPOT

3) _____region of the visible band is best suited for Crop Discrimination.
   a) Green Band
   b) Blue Band
   c) Red Band
   d) Near IR Band

4) Crop Acerage and Production Estimation (CAPE) is the project jointly launched by _____
   a) ISRO & IIRS
   b) DAC & DOS
   c) DOS & DOE
   d) DOS & IIRS

5) Formula for NDVI is _____
   a) IR/IR+NIR
   b) NIR+IR/NIR-IR
   c) NIR-IR/NIR+IR
   d) NIR/IR-NIR

6) To understand the crop growth _____ resolution of the satellite should be good.
   a) Radiometric
   b) Spatial
   c) Spectral
   d) Temporal

7) NDVI will help in the understanding of _____
   a) Vegetation
   b) Rural Growth
   c) Water Quality change
   d) None of the above

8) Spatial resolution best suited for Canal Alignment is _____

a) 5.8m
b) 1m
c) 10m
d) 23.5m

9) _____file format can be read by Google Earth.

a) .KML
b) .KMZ
c) .Shp
d) Both a & b

10) Presence of more number of lineaments in a satellite image indicates the Possibility of _____in the area.

a) Healthy Groundwater aquifer
b) Mineral Deposits
c) Landslides
d) Both a & b

11) _____of the following movement can NOT be monitored using satellite image.

a) Movement of Fishes
b) Movement of Sediments
c) Movement of Birds
d) Movement of cyclones

12) _____band combination will help in understanding of day time and night time temperature change.

a) Infrared and microwave
b) Visible and Infra red
c) Infrared and Thermal infrared
d) None of the above

13) CRZ means _____

a) Coastal Regional Zone
b) Coastal Regulatory Zone
c) Coastal Restriction Zone
d) Costal Rapid Zone

14) Best RS method for 3D mapping the urban city is _____

a) DEM
b) Microwave
c) LiDAR
d) DSM

Q.2 Write a note on landform analysis using Aerial and Satellite data. **14**

Q.3 Write a note on urban land conservation. **14**

Q.4 Write a note on disaster management and mitigation using satellite data. **14**

Q.5 **Explain the following:** **14**

A) Crop Water Management
B) Agricultural Application of RS and GIS

Q.6 **Write short note on:** **14**

A) Application of change detection analysis
B) Applications of Cadastral maps in urban and agricultural purpose

Q.7 **Write a note on:** **14**

A) Use of Satellite data in Basin analysis
B) Slope Mapping