

1/IV - 1st semester

19-12-22

2022-23


MODEL QUESTION PAPER
I/IV B.Tech DEGREE EXAMINATION
First Semester
Geo-Informatics Engineering
ELEMENTS OF CARTOGRAPHY
(Effective from the admitted batch 2022-23)

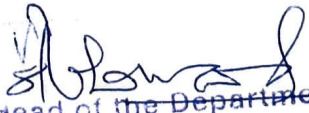
Time: 3 hours

Maximum: 70 marks

Question 1 is compulsory.
Answer any FOUR from remaining questions.
Answer the parts of any question at one place.
All Questions carry equal marks.

1. Answer the following.
 - a) What are the basic characteristics of maps?
 - b) Convert verbal scale of 15cm to 1km to RF.
 - c) Explain the map projections based on the method of derivation
 - d) What are the elements of map projection?
 - e) What are the graphic elements of the map (also TALDOGS)?
 - f) What are the guidelines for positioning of letters?
 - g) What is Spatial sampling?
2.
 - a) What are the methods of lettering? Explain in detail.
 - b) Explain the measurement technology of surveying in detail.
3.
 - a) Briefly explain relief representation on maps
 - b) Explain the block diagrams regarding slope determination.
4.
 - a) Explain in detail about conical projections.
 - b) Describe the census and population enumerations
5.
 - a) What are the types of cylindrical projections? Explain in detail.
 - b) What are the properties of graticule? Explain geographical coordinates.
6.
 - a) What is Sample distribution? Explain in detail.
 - b) What are the different elements of cartographic design?
7.
 - a) Explain the guidelines for positioning of letters.
 - b) Briefly explain about remote sensing and aerial photography.
8.
 - a) How to represent the scale on maps? Explain in detail.
 - b) What are the types of maps? Explain the classification of maps.


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Leg. section

(MODEL PAPER)

II/IV B.TECH DEGREE EXAMINATION

Geo-Informatics Engineering

Second Semester

PHOTOGRAMMETRY AND PHOTOINTERPRETATION

Time : 3 Hours

Max MARKS :70

~~Answer any Five questions~~

First question is compulsory

Answer any Four from the remaining questions

1. ~~Answer~~ Define the following
- a) Overlap
 - b) Scale
 - c) Aerial cameras
 - d) Principal point
 - e) Parallax
 - f) Airbase
 - g) Stereoscopes
- 2.a) Discuss about the fundamentals of photogrammetry and photointerpretation of aerial photographs?
- b) Define geometry of vertical photograph with neat sketch?
- 3 a) Write in detail about vertical exaggeration and explain factors involved in determination?
- b) Given an account of flight planning? write about stereoscopic viewing of vertical photographs?
- 4 a) Define relief displacement and derive the formula for calculating the relief displacement with neat sketch?
- b) Explain the stereoscopic method of parallax measurement?
- 5 a) Explain aerial mosaics and Compare with maps?
- b) Discuss the elements of aerial photo pattern of landforms?
- 6 a) Explain the use of aerial photo techniques in soil surveys with examples?
- b) Give an account of importance of aerial photo techniques in civil engineering projects?
- 7 a) Explain the overlap in aerial photography, enumerate the reasons for overlap in the aerial photogrammetry?
- b) Define ground control points and their use in photogrammetry?
- 8 a) Explain the latest developments in photogrammetry? List the applications of Dene surveying ?
- b) Explain the role of UAV in photogrammetry with suitable examples?

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Geo-Informatics Engineering
II/IV B.Tech. DEGREE EXAMINATION (2020-21)
Second Semester
GI 2202- PRINCIPLES OF PHYSICAL OCEANOGRAPHY

Time: 3 Hours

Max.Marks:70

Note: First question is compulsory
Answer any FOUR from the remaining questions.

1. Answer the following in brief:
 - a) Seiche
 - b) Ekman Spiral
 - c) Maritime Zones
 - d) Tidal Bore
 - e) Wave Steepness
 - f) Temperature – salinity diagram
 - g) Western boundary currents

2. a) Explain the factors controlling the ocean circulation.
b) Write about the tide measuring instruments.

3. a) Explain briefly about the color of sea water.
b) Explain the temperature distribution in the ocean.

4. a) Explain remote sensing techniques to measure the sea surface temperature.
b) Explain some methods to determine the salinity of sea water.

5. a) Explain briefly about the classification of ocean waves.
b) Explain briefly about storm surges, tsunamis and internal waves.

6. a) Discuss the currents in the Indian Ocean.
b) Explain briefly about the classification of water masses in the oceans.

7. a) Explain the mechanisms of sea level changes.
b) Discuss about marine pollution and conservation of marine resources.

8. a) Explain the propagation of waves in shallow water.
b) Explain the mechanism of tides and different types of tides.

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Geo-Informatics Engineering
II/IV B.Tech. DEGREE EXAMINATION (2020-21)
Second Semester
GI 2204 - REMOTE SENSING -1

Time: 3 Hours

Max.Marks:70

Note: First question is compulsory
Answer any FOUR from the remaining questions.

1. Answer the following
 - a) Explain the Propagation of EM waves
 - b) Explain the Surface characteristic for Radiometric Measurements
 - c) Define platform and explain different types of platforms.
 - d) Explain the Factors affecting spectral reflectance of materials.
 - e) Define Pushbroom Sensor and Whiskbroom Sensor
 - f) Define Radiant Flux and Solid Angle
 - g) Explain Atmospheric Windows

2. a) Define Remote Sensing and explain its historic prospective of Indian Remote Sensing program
 - b) Define the terms
 - i. Thermal Emission
 - ii. Velocity of EM Radiation
 - iii. Quantum nature of EM Radiation

3. a) Explain the factors affecting spectral reflectance of materials
 - b) Write a short note on
 - i. Kichoff's Law in Spectroscopy
 - ii. Wien's displacement law
 - iii. Stefan Boltzmann law

4. a) Define sensor and explain different types of remote sensing sensors with specifications
 - b) Define Resolution. Explain different types of resolutions.

5. a) Explain the basic principle of satellite mission
 - b) Explain in detail about
 - i. Landsat Series Satellite
 - ii. SPOT Series Satellite

6. a) Explain about Sun synchronous and Geo Synchronous satellite with neat sketch.
 - b) Write a detail note on IRS Series Satellite

7. a) Explain the elements of image interpretation
 - b) Explain methods of searching and sequence of interpretation

8. a) Define Image interpretation and explain interpretation keys of image interpretation
 - b) Explain methods of Analysis and reference levels.


3/10/2022

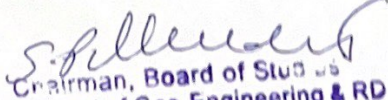
(MODEL PAPER)
Geo-Informatics Engineering
II/IV B. Tech. DEGREE EXAMINATION (2020-21)
Second Semester
GI 2205 - SPATIAL DATA ANALYSIS USING PYTHON
PROGRAMMING

Time: 3 Hours

Max.Marks:70

Note: First question is compulsory
Answer any FOUR from the remaining questions.

1. a) What are the key features of Python.
b) What are the local and global variables in Python?
c) What are Raster layers and Vector layers?
d) What is an ArcPy?
e) How to access the current map document in ArcGIS.
f) How can we evaluate Expressions in QGIS?
g) What are Python Modules?
2. a) What are the different data types in Python.
b) Explain the different types of Exceptions in Python.
3. a) Explain functions and recursion with an example.
b) Explain File operations that can be performed on files with example.
4. a) Explain Encapsulation and Information Hiding in Python.
b) Describe the types of Inheritance available in Python.
5. a) How are variables used in ArcGIS to store data.
b) How can we execute tools from the Python Script using ArcGIS?
6. a) How can you add layers to map document in ArcGIS.
b) How can the geo processing tools be executed from script.
7. a) Explain how we can do Map Rendering and Printing in PyQGIS.
b) How are Python Plugins developed? Explain.
8. a) How can we create NDVI in QGIS?
b) How can we perform nearest neighbor analysis in QGIS?


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