

Last date for submission of Assignments is 16-05-2018

Title of the course: PGD-GARD

Course No. GARD-401

Course Title: Geographic Information System

ASSIGNMENT

Total Marks: 30

Note: Answer any Six questions, ONE from each block.

- a. Each question carries Five (5) marks.
- b. Assignment should be written on A-4 size with, 1^{1/2} space and length of each question should be about 300-500 words.
- c. Write neatly without much correction and in your own legible handwriting.
- d. Wherever necessary include sketches, photographs, tables and graphs etc.
- e. Write clearly your Name and Enrolment No. on Top of the cover page of the assignment and this should not be bound with other assignments.
- f. The assignment should be sent to Regional Coordinator of the concerned contact centre on or before 16th May, 2018.

Block 1- Introduction to GIS Technology

1. Describe the components of GIS.
2. What are the various methods of geodata capture?
3. What are the advantages and limitations of raster and vector data model?
4. Differentiate between Tradition vs Modern architecture of GIS.

Block 2- Datum & Map Projections

5. What is Geoid? Explain the Geodetic Coordinate System.
6. What is a projection? Describe different types of projections.
7. Define Datum? Briefly write on two Datums which you know.

Block 3- Data Models and Data Structure

8. Compare and contrast spatial data models.
9. Define DBMS and explain its goal. What are the advantages of object oriented database?
10. Discuss the vector and grid file formats with examples.

11. What are the various sources of errors that occur during data inputting? How you will correct it?

Block 4- Spatial Data Analysis

12. State three types of vector overlay operations.
13. State various input datasets required for Terrain Modelling.
14. Name the different data visualisation methods and techniques.
15. What is the difference between Data Warehousing and Distributed Databases?
16. Describe five components of SDSS architecture.

Block 5- Geo-Spatial Services

17. What is OGC? Explain different web services specifications published by OGC?
18. What is Mobile GIS? Explain applications of Mobile GIS?
19. What do you mean by Spatial Data Infrastructure? Define major functionalities of Indian NSDI?
20. How has the latest database technology increased GIS applications areas? Explain.

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Title of the course PGD-GARD

Course No. GARD – 402

Course Title: Satellite Remote Sensing

ASSIGNMENT

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Block 1-Element of Satellite Remote Sensing

1. What is Active and Passive Remote Sensing? Discuss their advantages and dis-advantages.
2. What is EMS? Illustrate its wavelengths with a Diagram.
3. Define spectral signature? Illustrate spectral reflectance of vegetation, water and soil?
4. Explain the different types of Scattering.

Block 2-Satellite, Platforms and Sensors

5. Discuss the difference between Polar orbiting and Geo-stationery satellites?
6. What is Thermal Imaging? Explain how it is different from Optical Sensing.
7. Give a brief account of Indian Earth Observation Programme.
8. Write a detail description about Resourcesat -1 & 2 Satellites.

Block 3-Visual Interpretation Techniques and Digital Image Processing

9. Which of the interpretation elements depend on the data collected by remote sensors?
10. What is achieved by linear contrast enhancement? Discuss.
11. What is image classification? Briefly discuss two different methods of classification techniques?
12. What does the term absolute parallax refer to and how is it useful?

Block 4-Application of Remote Sensing in Rural Development

13. What is a Natural Resources Repository (NRR)? How important it is for sustainable agricultural development practices?
14. What are the different stages in disaster management where the technology plays an important role?
15. Describe Environment Impact Assessment? Elaborate with examples any environmental study.
16. Discuss with examples the various application studies carried under land use land cover using satellite imagery.

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Title of the course PGD-GARD

Course No. GARD – 403

Course Title: Global Positioning System

ASSIGNMENT

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Block 1- Principles of GPS

1. Discuss about Global Positioning System with Satellite Configurations. What are the advantages of GPS?
2. What is Space segment? What are other two different types of segments in GPS?
3. List all the GNSS system available along with frequencies used? In India, once the IRNSS is functional, can we get away with GPS/GNSS?
4. Distinguish between code and phase GPS receivers

Block 2-Operations of GPS

5. Discuss the role of GPS in navigation.
6. Discuss the accuracy and limitation of GPS.
7. Discuss the application of DGPS.
8. Write briefly on ITRF 2014 and WGS 84?

9. Explain three different time systems that are used in GIS and space geodesy?

Block 3-Application of GPS

10. Write a few applications of GPS in fisheries.
11. What are advantages of GPS in precision farming?
12. What is the different between Cadastral survey and Asset mapping for a parcel?
13. What are the advantages of GPS in space navigation?
14. What is GPS tracking? Discuss the limitations of GPS tracking?
15. What are the components of Location Based Services? Explain.

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Title of the course PGD-GARD

Course No. GARD – 404

Course Title: Rural Development

ASSIGNMENT

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Block 1- Concepts, Measures, Indicators of RD

1. What are the basic elements of Rural Development?
2. Write a brief note on RRA and PRA.
3. What are the social characteristics of rural areas?
4. Write a critique on the human development index (HDI) as measure of development.
5. What are the advantages and limitations of wealth ranking done using the technique participatory rural appraisal (PRA) as compared to conventional sample survey methods.

Block 2-Rural Poverty

6. Discuss Effective approaches in Rural Development?
7. What are the four developing objectives of Rural Development?
8. Discuss Absolute Poverty Line versus Relative Poverty Line?
9. What are the various types of Wage Employment Programmes?

Block 3-Poverty Alleviation Programmes

10. Bring out the types of anti-poverty measures initiated by the Government of India.
11. Briefly discuss the problems of rural infrastructure in India.
12. Discuss the Non Timber Forest Produce?
13. Describe the Convergence between MGNREGA and IWMP.
14. Write a brief note on Social Audit?

Block 4-Government of India Flagship Programmes

15. Write a note briefly on Convergence of IWMP with other programmes in Rajasthan.
16. Briefly mention the main components of the NLRMP, under the Computerization of land records?
17. Write a brief note on PMGSY?

Block 5-Development of Rural Women and Children

18. Comment on the Health Practices and Problems in Rural India
19. Give a brief note on the Micro-Credit, Poverty Reduction and Empowerment.
20. Briefly describe the Self Help Group Concept.
21. What are the Main features of Right to Education Act?

Block-6 - Rural Development in Environmental Protection

22. Describe the Environmental Appraisal Procedure?
23. Write a short note on Common Property Management?
24. Describe in brief, the Ecological Footprint.
25. Illustrate the Impact of Agriculture on Climate Change.

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Title of the course PGD-GARD

Course No. GARD – 405

Course Title: Project Planning & Management

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Block 1- Project Management & Organization

1. Describe the project life cycle?
2. Write about the differences & similarities between projects & operations with examples?
3. Discuss Functional Organization and Projectized Organization
4. What are the different types of organization charts? Discuss.
5. Describe briefly the importance of Negotiation skills, Political & Cultural awareness in project management?

Block 2- Project Initiation

6. Describe SWOT analysis and applicability to projects
7. What are discounting methods of project appraisal?
8. What is technical analysis? Describe the various components of technical analysis.

9. What are the different types of feasibility study performed in project selection? Write about the schedule and operational feasibility.
10. What are the inputs to project selection process? What is the process of project identification and selection?

Block 3- Project Planning & Implementation

11. What are the different types of WBS structure representations?
12. What are applications of Sensitivity analysis? Write about one in brief?
13. Define the terms: Linearity, Function, Linear equation and Linear function?
14. Write about the EIA review and monitoring and Audit.

Block 4- Network Techniques

15. a) What is the slack available on a critical path?
b) Does dummy activity consume resources?
16. What is a critical path method? Compare CPM with PERT?
17. Briefly describe the Gantt chart and Milestone chart?
18. Define Earliest Activity Start Time, Earliest Activity Finish Time, Latest Activity Start Time, Latest Activity Finish Time?

Block 5- Quality and Risk Analysis

19. Identifying all possible failures in a design, process or product step by step and documenting for ready reference.
20. Define Risk. What are the different types of Risks?
21. Explain the ways and means of planning and controlling quality.
22. What are the advantages and disadvantages of decision tree analysis?

Block-6- Project Monitoring Evaluation and Control

23. What are the methods of monitoring and steps involved in monitoring?
24. Write briefly about Evaluation and differences between monitoring & evaluation?
25. List a few software applications used for managing projects and discuss their advantages to Project Planning.