2007

REMOTE SENSING AND GEOGRAPHIC INFORMATION SYSTEM

PAPER VII (**MOD-28 & 29)**

Full Marks : 100

Time : 4 hours

The figures in *the right-hand margin indicate full marks.*

Candidates are required to give their answers in their own words as *far* as *practicable.*

Illustrate the answers *wherever necessary.*

Write the answers *of questions for each modules in separate books.*

Remote Sensing in Earth Sciences

MODULE – 28 *(Full Marks-"- 40)'*

Group-A

Answer any two questions. 2x 10

1. (a) Describe the impact of topography outcrops, and different types of folds.

   (b) Define structural lineaments, strike and thickness of beds. 5+5

2. (a) Explain the methods of identification of faults located in field.

   (b) What are the prominent features of a deltaic landscape that you can identify from RS data? 5+5

3. (a) Explain how the photogeomorphological maps are prepared from satellite images and aerial photos.

(b) Indicate the method of photogeological map production from images. and aerial photos. 5+5

4. Describe how lithology affects the development of landforms in the coastal belt, and explain how geological structures are reflected by various drainage patterns. 5+5

Group-B

Answer any *two* questions. 2x 10

5. How do you distinguish on satellite images : 2- x4

(i) Abandoned channels.

(ii) Rock orientation and outcrop pattern.

(iii) Sedimentary terrain.

(iv) Channel bed depositional features.

6. Identify the geomorphic agents and processes of desert landscape and coastal landscape. Explain the formation of geomorphic features found in the desert landscape. 5+5

7. Explain the significance of terrain classification and identify the various stages of geomorphological mapping. 5+5

8. Discuss the role and importance of drainage pattern analysis from RS data for lithological and structural interpretations. 5+5

MODULE -- 29 *(Full Marks : 60)*

Group--A

Answer any *two* questions. 2X 15

1. Define weathering. Describe the landforms developed by solution. How do you identify the solutional landforms from a satellite Imagery ? 2+8+5

2. What are the causes of Rejuvenation ? Describe the landforms developed by rejuvenation with special reference to river terrace. What are the indicators for identifying rejuvenated landforms from a standard F.C.C. ? 5+5+5

3. How do the coastal landforms develop and evolve as a result of complex interaction among erosion transportation and deposition. What are the geomorphic and environmental significance of coral reef ? How do you use the techniques of RS & GIS for coastal study? 4+5+6

4. Divide India into major Geomorphic Divisions. Interpret the drainage characteristics of any two geomorphic divisions. 5+10

Group-B

Answer any *three* questions. 3x 10

5. **Briefly describe** the theory **of peneplanation**. How do you identify **a peneplain** from R.S. data? ' 7+3

6. Differentiate alluvial cone, alluvial fan and delta. How do you use RS & GIS technique for delta management ? 5+5

7. How do you prepare a geomorphic map of an and region ? Which of the landforms are to be targetted for ground water withdrawal ? 4+6

8. Discuss the processes for the development of a superimposed drainage system. Explain the processes of valley development. 6+4

9. Explain the characters of a meander.' How is the development of a mender associated with bank **erosion ?** 6+4