2021

(July)

GEOLOGY

(Honours)

(Remote Sensing and Hydrogeology)

(GELH–601)

Marks : 56

Time : 3 hours

The figures in the margin indicate full marks for the questions

Answer **four** questions, selecting **one** from each Unit

GROUP—A

(Remote Sensing)

UNIT—1

1. *(a)* Discuss the characteristics of EM radiation. 4

(b) Comment on the role of electromagnetic radiation in remote sensing. 2

(c) Discuss various sensors used in remote sensing. 4

(d) Describe the status of remote sensing technology in India. 4

2. *(a)* Define photointerpretation. 4

(b) Explain the various photo-elements for feature identification and interpretation. 10

UNIT—2

3. Write explanatory notes on any *two* of the following : 7×2=14

(a) Mosaics—controlled and uncontrolled

(b) Photo-scale

(c) Optical instruments used for stereo-viewing

4. Write explanatory notes on any *two* of the following : 7×2=14

(a) Components of GPS

(b) GPS applications

(c) Advantages and limitation of aerial photographs

GROUP—B

(Hydrogeology)

UNIT—3

5. Illustrate hydrologic cycle with the help of a suitable sketch. Add a note on water table versus piezometric surface. 7+7=14

6. What is Darcy's law? Derive the fundamental equation for groundwater movement with neat sketches. 4+10=14

UNIT—4

7. Explain the principle, field procedure and interpretation of resistivity survey for groundwater. 4+4+6=14

8. Write explanatory notes on any *two* of the following : 7×2=14

(a) Selection of sites for sinking wells

(b) Indo-Gangetic alluvial province

(c) Groundwater quality

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