3 (Sem–6/CBCS) GLG HC 2

2024

GEOLOGY

(Honours Core)

Paper : GLG–HC–6026

(Remote Sensing and GIS)

Full Marks : 60

Time : Three hours

The figures in the margin indicate full marks for the questions.

1. Answer the following questions : 1×7=7

(a) The overlapping between two adjacent photos in a run is

(i) 30%

(ii) 45%

(iii) 60%

(iv) 75%

(Choose the correct answer)

(b) The side lapping between adjacent run is

(i) 10%

(ii) 20%

(iii) 25%

(iv) 30%

(Choose the correct answer)

(c) The point on the ground vertically beneath the perspective centre of the camera is known as

(i) principal point

(ii) perspective centre

(iii) nadir point

(iv) isocentre

(Choose the correct answer)

(d) Arial photography may be used for

(i) groundwater investigation

(ii) damsite selection

(iii) mineral exploration

(iv) All of the above

(Choose the correct answer)

(e) GPS stands for _____.

(Fill in the blank)

(f) Cartographic aspects of GIS is related to _____. *(Fill in the blank)*

(g) What is the unit of UTM projected co-ordinate system ?

2. Write in brief of the following : 2×4=8

(a) Visible band

(b) Atmospheric window

(c) Elements of GIS

(d) Map resolution

3. Write notes on ***any three*** of the following : 5×3=15

(a) Types of arial photography

(b) Principle of remote sensing

(c) Vertical exaggration

(d) Types of image errors

(e) Geocentric vs local datum

4. Answer ***any three*** of the following: 10×3=30

(a) Discuss the advantages and disadvantages of aerial photography and satellite imagery. 5+5=10

(b) Discuss the function and types of remote sensing sensors.

(c) What is remote sensing ? Add a note on how sedimentary, igneous and metamorphic rocks can be identified by remote sensing. 2+8=10

(d) Give a detailed account on digital image processing.

(e) Define datum. Discuss geographic coordinate system and projected coordinate system. 2+8=10

(f) What is GPS ? Justify how combining GPS and GIS allow greater capabilities. Write some applications of GPS in earth system sciences. 2+5+3=10
