

**BIRLA INSTITUTE OF TECHNOLOGY, MESRA, RANCHI
(END SEMESTER EXAMINATION)**

**CLASS: MSC
BRANCH: GEOINFORMATICS**

**SEMESTER : III
SESSION : MO/19**

**TIME: SUBJECT: GI503:AERIAL,SATELLITE,UAV BASED PHOTOGRAMMETRY AND APPLICATIONS
3 HOURS**

FULL MARKS: 50

INSTRUCTIONS:

1. The question paper contains 5 questions each of 10 marks and total 50 marks.
 2. Attempt all questions.
 3. The missing data, if any, may be assumed suitably.
 4. Before attempting the question paper, be sure that you have got the correct question paper.
 5. Tables/Data hand book/Graph paper etc. to be supplied to the candidates in the examination hall.
-

- Q.1(a) Give reasons and justify two important landmarks in the history of photogrammetry. [2]
Q.1(b) What are the limitations to be observed while planning a flight over Dead grounds. [3]
Q.1(c) What do you understand by Drainage Patterns. Interpret and illustrate the pattern for rain fed rivers originating on plateau tops. [5]
- Q.2(a) Classify the Aerial Photographs on the basis of their Principal axis and the Area they cover. Illustrate your answers with appropriate figures. [5]
Q.2(b) Using the Parallax equation evaluate the height of an object with the following Data: [5]
Parallax difference 0.023cm, Overlaps between two stereo pairs of 23 cmx23cm is 60%. Flying height of the aircraft is 1830m.
- Q.3(a) While planning a flight over the undulating Himalaya region, what considerations will be appropriate for 'Scale'. [2]
Q.3(b) Explain the elements of Interior orientations with a sketch of the parameters. [3]
Q.3(c) Investigate the various methods of performing aero triangulation. [5]
- Q.4(a) a) You are given a Hard copy Aerial Photo having scale 1:2000. You are asked to scan the image at 1000 DPI. What will be the spatial resolution of the scanned Digital Image? [2]
Q.4(b) Explain Why do you need Colour Balancing in Digital Photogrammetry? [2]
Q.4(c) Differentiate Perspective Projection and Orthoscopic Projection? [2]
Q.4(d) You are asked to Estimate the height of a building from Single Aerial Photograph. How will you estimate? Derive the Equation. [4]
- Q.5(a) What are the Components of UAV used in Photogrammetry? [2]
Q.5(b) Differentiate the Photogrammetric Flight Planning Requirements of UAV from Aerial approach? [3]
Q.5(c) What is Aerial Triangulation? Why it is important in Digital Photogrammetry? [2]
Q.5(d) Explain these terminologies: DSM, DTM, Photogrammetric Workstation. [3]

:::29/11/2019:::M