



**B.E (FULL TIME) DEGREE END SEMESTER EXAMINATION
MARCH / APRIL 2011**

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**CIVIL ENGINEERING BRANCH
Third Semester Geoinformatics (Regulation 2008)**

GI 9203 Photogrammetry-I

Time : 3.00 hrs

Max. Mark : 100

- Instructions:** 1. Answer all questions under PART-A and PART-B respectively
2. Assume suitable data wherever necessary
3. Draw neat sketches wherever required

PART – A

10 x 2 = 20 Marks

1. What is end lap and side lap.
2. Define photogrammetry.
3. Define the following terms. a) Equivalent focal length
b) Principal point.
4. What are the functions of filter in aerial camera?
5. A distance ab on a vertical photograph is 51.7 mm, and corresponding ground distance AB is 1282m. What is the scale of photograph?
6. Define vertical photograph.
7. What is drift angle?
8. List the methods for establishing ground control survey.
9. List the equipments used for photo interpretation.
10. What do you mean by selective key and elimination key?

PART – B

5 x 16 = 80 Marks

11. a. i. Explain in detail about contact printing and projection printing. **8**
ii. Explain the procedure for processing of B/W film. **8**
12. a. i. What are the methods available to calibrate the aerial camera? **3**
ii. Explain in detail about various corrections applied to the measured photo co-ordinates. **13**

(or)

(ii) A reservoir had an average surface area of 20 km² during April 1942. In that month the mean rate of inflow = 10 m³/s, outflow = 15 m³/s, monthly rainfall = 10 cm and change in storage = 16 million m³. Assuming the seepage losses to be 1.8 cm, estimate the evaporation in that month. (6)

(OR)

(b) (i) How is the double mass curve technique used to check the consistency and adjust the rainfall record at a suspicious station? (10)

(ii) Explain briefly about the pan evaporation the Φ - Index and W - Index. (6)

13. (a) In what ways the discharge measurement of a stream can be made? Explain the various direct methods of stream flow measurement with neat sketches. (16)

(OR)

(b) The ordinates of a 6-h unit hydrograph are given.

Time (hrs)	0	3	6	9	12	18	24
UH ordinate (m ³ /s)	0	150	250	450	600	800	700
Time (hrs)	30	36	42	48	54	60	66
UH ordinate (m ³ /s)	600	450	320	200	100	50	0

A storm had three successive 6-h intervals of rainfall magnitude of 3.0, 5.0 and 4.0 cm respectively. Assuming a ϕ index of 0.20 cm/h and a base flow of 30 m³/s, determine and plot the resulting hydrograph. (16)

14. (a) (i) Explain the step by step procedure involved in estimation of flood for the return period 10, 25, 50 and 100 years using Weibull's method. (10)
- (ii) What are the limitations of flood frequency studies? (6)

(OR)

(b) (i) What is a hydrological drought? What are its components and their possible effects? (10)

(ii) Write short note on NDVI analysis. (6)

15. (a) Elaborate the importance of rainwater harvesting and explain the different techniques used in urban areas with sketches. (16)

(OR)

(b) What is meant by artificial recharge? With the help of neat sketch discuss the various artificial recharge techniques. (16)