M.A./M.Sc. Geography
First Semester
Practical -II (41365 B) Air photo Interpretations

Unit – I

a) Definition,
b) Scope
c) Development of aerial photography
d) interpretation techniques

Unit – II

Types and quality of aerial photographs

a) Types of aerial photographs
b) Factors affecting quality of aerial photographs
c) Aerial photographs versus maps
d) Usages of Aerial Photographs in interdisciplinary research

Unit – III

Tools and geometry of air photography and interpretation:

a) Pocket stereoscope and mirror stereoscope
b) Aerial camera, lens and filters
c) Geometry of aerial photographs
d) Stereogram, stereo triplet and mosaic

Unit – IV

Basic air photo measurements:

a) Photographic scale
b) Measuring height of object
c) Calculation of area, number of strips and number of air photos
d) Measuring angles, direction and slope measurement

Unit – V

a) Elements of object identification,
b) Interpretation and mapping of natural landscapes
c) Interpretation and mapping of cultural landscapes
d) field checking

Practical Exercises Practical Exercises

Practical Exercises

Notes:

Students are required to perform one experiment from each unit during examination.

1) Stereo test
2) Orientation of stereo model under mirror stereoscope (1 Exercises)

3) Calculate the Photo base,& flight line. (2 Exercises)
4) Determination of photo/image scale (1Exercises)
5) Determination of heights using single photograph (1Exercises)
6) Objects Identification by Pocket Stereograph (1 Exercises)
7) Interpretation and mapping of natural landscapes :physical aspects, drainage patterns, river basins, and vegetation (8 Exercises)
8) interpretation and mapping of cultural landscapes: land Use, Agricultural Utilisation, field patterns, cultural aspects, settlements and transportation lines (8 Exercises)

One local field trip will be conducted for field verification of aerial photographs of Udaipur city and nearby areas. Students will be required to prepare a Field Report and submit along with the Record Work.

References:

1. American Society of photogrammetry: Manual of remote sensing, ASP, Falls Church, VA, 1983
2. Avery, T. E., Interpretation of Aerial Photographs, Burges
3. Barrett, E. C. and L. F. Curtis, Fundamentals of Remote Sensing and Air Photo Interpretation, Macmillan, New York, 1992
4. Compbell, J., Introduction to Remote Sensing, Guilford, New York, 1989
5. Curran, Paul J., Principles of Remote Sensing, Longman, London, 1985
6. Hord, R. M., Digital Image Processing of Remotely Sensed Data, Academic, New York, 1989
7. Kennie and Methue, Remote Sensing in Civil Engineering Survey, University Press, London
8. Luder, D., Aerial Photograph Interpretation: Principles and Applications, McGraw Hill, New York, 1959
9. Plates, J. E. and L. W. Snagery, remote Sensing Techniques for Analysis, Hamilton Publishing Company
10. Robert, G. Reeves et al, Manual of Remote Sensing, Volume I & II
11. Smith, H. T. V., Aerial Photographs and their Applications, Appleton Century Crofts
12. Spurr, S. H., Photogrammetry and Photo Interpretation, Ronald Press
13. Talbut, A. Essentials of Aerial Surveying and Photo Interpretation
14. Thomas, M. Lillesand and Ralf W. Kefer, Remote Sensing and Image Interpretation, John Wiley and Sons, New York, 1994
15. Tomar, M. S. and A. R. Maslekar, Aerial Photographs in Land use and Forest Surveys, Kishore and Company, Dehradun

Distribution of Marks **Total Marks 100**

A Part –Practical paper of three hours duration will be held along with main theory paper examination. (40 marks)

Section – A Objective type 5 marks. Asked 10 questions, attempt all questions.

Section – B Short Answers – 20 marks, Asked 10 questions, one question from each unit and attempt five questions.

Section-C Descriptive type-15 marks ,Asked 5 questions, one question from each unit and attempt two questions

Practical – Assessed by Internal Examiner

Part B- Air photo Interpretation 60 marks

A.- Test paper Lab exercise – 35 marks (25+10),

i. Practical exercise shall be of three hours duration and of 25 marks and candidates will be required to attempt any 2 exercises out of 4.
ii. The identification of objects (at least 10) on the air photo pairs shall be of 30 minutes duration and will carry 10 marks

B -Record work – 15 marks

C -Viva-voce – 10 marks