

M. A. / M. Sc. (Final) Geography
Practical – II (A): Computer Application in Geography

Unit – I

Basics of computers and network

- a) Computer; History, generations, types, characteristics and number systems.
- b) Block diagram of computer; Memory, input-output devices and printer.
- c) Secondary storage devices; Bus and ports.
- d) System software.
- e) Computer network; Topologies, LAN, MAN and WAN.

Unit – II

Application Package: Word processor, Spreadsheet

- a) Word processor: Editing, formatting, objects, options
- b) Mail merge, printing,
- c) Spreadsheet: Worksheet and workbook, editing and formatting, creating formula, and creating charts.
- d) Functions: Mathematical, statistical and logical,
- e) Pivot tables and statistical analysis of data.

Unit – III

Programming with database -

- a) Database programming: Introduction to database, advantages, data model.
- b) MS Access: data types, table creation, adding, editing
- c) SQL (elementary idea only): select, where, group, sorting etc.
- d) Data import and export
- e) Report generations.

Unit – IV

Internet technology and Statistical package

- a) Internet technology; World Wide Web, e-mail, telnet etc.
- b) Intranet; addressing in internet, URL, web browser and search engines.

- d) Statistical package (SPSS or equivalent): data management, data transformation.
- e) Statistical analysis, plotting graphs and charts.
- f) Data import and export.

Unit – V

Geographical information system

- a) Basics of GIS: Meaning, requirements and capabilities.
- b) Creating and editing vector objects.
- c) Attribute database integration.
- d) Overlaying vector objects.
- e) Creating layouts.

Practical Exercises

Notes:

1. Number of practical classes: 80 hours duration.
2. One computer per student must be used for practical training.
3. Students are required to perform one experiment from each unit during examination.

UNIT – I

- a) Verify the configuration of your Computer System.
- b) Write configuration of impact and non-impact printer and verify them.
- c) Install MS-office/objects on your computer system.
- d) Verify your computer centre/College network topologies.
- e) Write steps to connect your system with Server and verify it.

UNIT – II

- a) Create a word document containing text, table and objects. Also format your document with proper alignment. fonts.

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- c) Develop various types of charts in Excel for suitable data.
- d) Create a worksheet for wage analysis and Mark sheet preparation.
- e) Pivot table

UNIT - III

- a) Database creation for a School/College/University.
- b) Show the relationship among schemas.
- c) Queries for data retrieval and updating.
- d) Generation of Simple reports using single and multiple tables in various formats.
- e) Importing of data from other software and text file in Access.

UNIT - IV

- a) Use Internet for surfing and email
- b) Create your web page for your personal details and achievements.
- c) Create web pages for various activities of departments of your college and link them.
- d) Use of Statistical package for file creation and plotting charts.
- e) Use of Statistical package for analysis of data.

UNIT - V

- a) Creating and editing vector data
- b) Attaching attribute files
- c) Drawing buffers
- d) Creating layouts
- a) Querying

Distribution of Marks:

- A. Theory Paper: 50 marks.
The theory paper will be of three hours duration to be held during the main examination

B. Practical: 50 marks:

- (i) Test Exercises: 30 marks and duration four hours.
- (ii) Record Work: 10 marks
- (iii) Viva Voce: 10 marks

Suggested Readings:

1. Burrough, Peter A. and Rachael A. McDonnell, Principles of Geographical Information System, Oxford University Press, Oxford, 1998.
2. ESRI, User Guides, ARC/INFO, ESRI Inc., New York.
3. Jain, V. K., Information Technology, BPB Publications, New Delhi, 2000.
4. Liskin, Miriam, Programming FoxPro 2.5, BPB Publications, New Delhi, 1995.
5. Micro Images, Getting Started Booklets, Micro Images Inc., Lincoln, Nebraska.
6. Microsoft Corporation, Microsoft MS-DOS 6.22 User's Guide, 1993.
7. Microsoft Corporation, Windows 95/98/2000 User's Guide/ Online Help.
8. MS Excel Online Help.
9. Norusis, Marija J., SPSS base System User's Guide, SPSS Inc. Chicago, 1992.
10. Ram, B., Computer Fundamentals: Architecture and Organisation, New Age International (P) Ltd. Publishers, New Delhi, 2001.
11. Taxali, R. K., FoxPro 2.5 Made Simple, BPB Publications, New Delhi, 2000.