

# **AGRINFO-211: Agricultural Informatics**

**Credit Hours: 1+1**

## **THEORY**

Computer fundamentals; Introduction to Computers, Anatomy of Computers, Memory Concepts, Units of Memory, hardware and software; input and output devices; Number System's & representation of number systems; Introduction to machine, assembly & high level languages, programming concepts - algorithms and flowcharts; Local area network (LAN), Wide area network (WAN), Internet and World Wide Web.

Operating System, types of operating system, Applications of MS-Office for creating, Editing and Formatting a document, Data presentation, tabulation and graph creation, statistical analysis, mathematical expressions, Database, concepts and types, creating database, uses of DBMS in Agriculture, Internet and World Wide Web (WWW), Concepts, components and creation of web, HTML, XML coding.

E-Agriculture: concepts, design and development, application of innovative ways to use information and communication technologies (IT) in Agriculture. ICT for Data Collection, IT application for computation of water and nutrient requirement of crops etc., Computer-controlled devices (automated systems) for Agri-input management, Smartphone mobile apps in Agriculture for farm advises market price, post-harvest management etc.; Introduction of DSS and its role in agriculture, Introduction and role of expert system in agriculture.

## **PRACTICAL**

Study of Computer Components and accessories. Introduction of different operating systems such as windows, UNIX, Linux, Creating, Files & Folders, File Management. Use of MS-WORD and MS Power point for creating, editing and presenting a scientific Document, Handling of Tabular data, animation, video tools, art tool, graphics, template & designs. MS-EXCEL –Creating a spreadsheet, use of statistical tools, writing expressions, creating graphs, analysis of scientific data, handling macros. MS-ACCESS: Creating Database, preparing queries and reports, demonstration of Agri-information system.

Introduction to World Wide Web (WWW) and its components, Introduction to HTML, Use of smart phones and other devices in agro-advisory and dissemination of market information.

## **References**

1. Internet: The Complete Reference 2 Sub Edition by Margaret Levine Young.
2. Office 2013 All-In-One For Dummies by Peter Weverka.
3. Computer Fundamentals (With CD) 6th Edition 6th Edition by Pradeep Sinha and Priti Sinha.
4. Principles of Programming Languages by Er. Anil Panghal.
5. E-Agriculture and Rural Development by Charalampos Patrikakis, Blessing Maumbe.

## Lecture Schedule

<b>THEORY</b>		
<b>S. N.</b>	<b>Topics</b>	<b>No. of Lectures</b>
1.	Computer fundamentals; Introduction to Computers	1
2.	Anatomy of Computers, Memory Concepts,	1
3.	Units of Memory, hardware and software; input and output devices;	1
4.	Number System's & representation of number systems	1
5.	Introduction to machine, assembly & high level languages, programming concepts- algorithms and flowcharts;	1
6.	Local area network (LAN), Wide area network (WAN), Internet and World Wide Web.	1
7.	Operating System, types of operating system,	1
8.	Applications of MS-Office for creating, Editing and Formatting a document,	1
9.	Data presentation, tabulation and graph creation, statistical analysis, mathematical expressions,	1
10.	Database, concepts and types, creating database,	1
11.	uses of DBMS in Agriculture, Internet and World Wide Web (WWW),	1
12.	Concepts, components and creation of web, HTML, XML coding.	1
13.	e-Agriculture: concepts, design and development, application of innovative ways to use information and communication technologies (IT) in Agriculture.	1
14.	ICT for Data Collection	1
15.	IT application for computation of water and nutrient requirement of crops etc.,	1
16.	Computer-controlled devices (automated systems) for Agri-input management	1
17.	Smartphone mobile apps in Agriculture for farm advises, market price, post-harvest management etc	1
18.	Introduction of DSS and its role in agriculture, Introduction and role of expert system in agriculture.	1

<b>PRACTICAL</b>		
<b>S. N.</b>	<b>Topics</b>	<b>No. of Lectures</b>
<b>1.</b>	Study of Computer Components and accessories	<b>1</b>
<b>2.</b>	Introduction of different operating systems such as windows, Unix, Linux, Creating, Files & Folders,	<b>1</b>
<b>3.</b>	File Management. Use of MS-WORD	<b>1</b>
<b>4.</b>	MS Powerpoint for creating, editing and presenting a scientific Document	<b>1</b>
<b>5.</b>	Handling of Tabular data, animation, video tools, art tool, graphics, template & designs.	<b>1</b>
<b>6.</b>	MS-EXCEL –Creating a spreadsheet, use of statistical tools	<b>1</b>
<b>7.</b>	Writing expressions, creating graphs, analysis of scientific data	<b>1</b>
<b>8.</b>	handling macros.	<b>1</b>
<b>9.</b>	MS-ACCESS:Creating Database,	<b>1</b>
<b>10.</b>	Preparing queries and reports, demonstration of Agri-information system.	<b>1</b>
<b>11.</b>	Introduction to World Wide Web (WWW) and its components, and	<b>1</b>
<b>12.</b>	Introduction to HTML	<b>1</b>
<b>13.</b>	Introduction to HTML	<b>1</b>
<b>14.</b>	Use of smartphones and other devices in agro-advisory	<b>1</b>
<b>15.</b>	Dissemination of market information.	<b>1</b>
<b>16.</b>	Dissemination of market information.	<b>1</b>