Syllabus of B.Sc. (Agri.) (Hons.)

First Semester

Eng. 1.1 Comprehension and Communication Skills in English Credit Hours: (1+1=2)

Theory

Selected Short Stories of eminent writers from India and abroad: Rabindranath Tagore, Mulk Raj Anand, Premchand, R K Narayan, Isaac Asimov (Science Fiction), Sudha Murthy, Leo Tolstoy, O Henry, Anton Chekhov, Guy De Maupassant, K A Abbas Basic Grammar: Articles, Prepositions, Concord, Transformation, Synthesis, Reported Speech, Active- Passive Voice

Practical

Reading Comprehension Practice in reading short paragraphs, notices, announcements, advertisements, newspaper articles, reports, etc. Writing Skills: Writing experimental reports and journals, Writing informal letters, leave applications, Writing short notices, announcements, Filling simple forms for different purposes, Short Notes Listening Comprehension: Listening to announcements at public places like Railway Station, Bus Station, Airports, Malls, etc., Listening to short conversations on basic language functions, Listening to short speeches and lectures, Listening to news on TV & Radio Speaking: Introduction, Greeting people on different occasions, Carrying out basic language functions like Asking for Permission, Asking and Showing directions, Describing people and places, Reporting ongoing events, etc.

Maths 1.1 Elementary Mathematics Credit hours (2+0= 2)

Theory

Differential Calculus: Definition of function, limit and continuity, Simple problems on limit, Simple problems on continuity, Differentiation of x^n , e^x , sin x &cos x from first principle, Derivatives of sum, difference, product and quotient of two functions, Differentiation of functions of functions (Simple problem based on it), Logarithmic differentiation (Simple problem based on it), Maxima and Minima of the functions of the form y=f (x) (Simple problems based on it).

IntegralCalculus : Integration of simple functions, Integration of Product of two functions, Definite Integral (simple problems based on it), Area under simple well-known curves (simple problems based on it)

Matrices and Determinants: Definition of Matrices, Addition, Subtraction, Multiplication, Transpose and Inverse up to 3rd order, Properties of determinants up to 3rd order and their evaluation

Ag. Stat. 1.1 Agricultural Informatics Credit hours (2+1=3)

Theory

1. Introduction to Computers, 2. Anatomy of Computers, 3. Memory Concepts, Units of Memory, 4. Operating System, definition and types, 5. Applications of MS-Office for creating, Editing and Formatting a document, 6. Data presentation, tabulation and graph creation, statistical analysis, mathematical expressions, 7. Database, concepts and types, creating database, uses of DBMS in Agriculture, 8. Internet and World Wide Web (WWW), Concepts and

components. 9. e-Agriculture, concepts, design and development. 10. Application of innovative ways to use information and communication technologies (IT) in Agriculture. 11. Computer Models in Agriculture: statistical, weather analysis and crop simulation models, concepts, structure, inputs-outputs files, limitation, advantages and application of models for understanding plant processes, sensitivity, verification, calibration and validation. 12. IT application for computation of water and nutrient requirement of crops, 13. Computer-controlled devices (automated systems) for Agri-input management, 14. Smartphone mobile apps in Agriculture for farm advises, market price, postharvest management etc; 15. Geospatial technology, concepts, techniques, components and uses for generating valuable agri-information. 16. Decision support systems, concepts, components and applications in Agriculture, 17. Agriculture Expert System, Soil Information Systems etc for supporting Farm decisions. 18. Preparation of contingent crop-planning and crop calendars using IT tools.

Practical

1. Study of Computer Components, accessories, practice of important DOS Commands. 2. Introduction of different operating systems such as windows, Unix/ Linux, Creating, Files & Folders, File Management. 3. Use of MS-WORD and MS Power-point for creating, editing and presenting a scientific Document. 4. MS-EXCEL - Creating a spreadsheet, use of statistical tools, writing expressions, creating graphs, analysis of scientific data, handling macros. 5. MS-ACCESS: Creating Database, preparing queries and reports, demonstration of Agri-information system. 6. Introduction to World Wide Web (WWW) and its components. Hands on practice on Crop Simulation Models (CSM), DSSAT/Crop-Info/Crop Syst/ Wofost. 7. Preparation of Inputs file for CSM and study of model outputs, computation of water and nutrient requirements of crop using CSM and IT tools. 8. Use of smart phones and other devices in agro-advisory and dissemination of market information. 9. Introduction of Geospatial Technology, for generating information important for Agriculture. 10. Hands on practice on preparation of Decision Support System. Preparation of contingent crop planning.

Second Semester

HVE 2.1 Human Value and Ethics Credit hours (1+0=1)
Theory Values and Ethics-An Introduction. Goal and Mission of Life. Vision of Life. Principles and Philosophy. Self Exploration. Self Awareness. Self Satisfaction. Decision Making. Motivation. Sensitivity. Success. Selfless Service. Case Study of Ethical Lives. Positive Spirit. Body, Mind and Soul. Attachment and Detachment. Spirituality Quotient. Examination.

Syllabus of Polytechnic in Agriculture

First semester

Eng. 1.1 Comprehension and Communication Skills in English Credit hours: 2(1+1)
Theory Selected Short Stories of eminent writers from India and abroad: Rabindranath Tagore, Mulk Raj Anand, Premchand, R K Narayan, Isaac Asimov (Science Fiction), Sudha Murthy, Leo Tolstoy, O Henry, Anton Chekhov, Guy De Maupassant, K A Abbas Basic Grammar: Articles, Prepositions, Concord, Transformation, Synthesis, Reported Speech, Active- Passive Voice
Practicals Reading Comprehension Practice in reading short paragraphs, notices, announcements, advertisements, newspaper articles, reports, etc. Writing Skills: Writing experimental reports and journals, Writing informal letters, leave applications, Writing short notices, announcements, Filling simple forms for different purposes, Short Notes Listening Comprehension: Listening to announcements at public places like Railway Station, Bus Station, Airports, Malls, etc., Listening to short conversations on basic language functions, Listening to short speeches and lectures, Listening to news on TV & Radio Speaking: Introduction, Greeting people on different occasions, Carrying out basic language functions like Asking for Permission, Asking and Showing directions, Describing people and places, Reporting ongoing events, etc.

Second semester

Maths 2.1 Elementary Mathematics Credit hours: 2(2+0)
Theory Differential Calculus: Definition of function, limit and continuity, Simple problems on limit, Simple problems on continuity, Differentiation of xn , ex , sin x &cos x from first principle, Derivatives of sum, difference, product and quotient of two functions, Differentiation of functions of functions (Simple problem based on it), Logarithmic differentiation (Simple problem based on it), Maxima and Minima of the functions of the form y=f (x) (Simple problems based on it). Integral Calculus : Integration of simple functions, Integration of Product of two functions, Definite Integral (simple problems based on it), Area under simple well-known curves (simple problems based on it) Matrices and Determinants: Definition of Matrices, Addition, Subtraction, Multiplication, Transpose and Inverse up to 3rd order, Properties of determinants up to 3rd order and their evaluation

Fourth semester

Ag. Stat. 4.1 Agricultural Informatics Credit hours: 3(2+1)

Theory

1. Introduction to Computers, 2. Anatomy of Computers, 3. Memory Concepts, Units of Memory, 4. Operating System, definition and types, 5. Applications of MS-Office for creating, Editing and Formatting a document, 6. Data presentation, tabulation and graph creation, statistical analysis, mathematical expressions, 7. Database, concepts and types, creating database, uses of DBMS in Agriculture, 8. Internet and World Wide Web (WWW), Concepts and components. 9. e-Agriculture, concepts, design and development. 10. Application of innovative ways to use information and communication technologies (IT) in Agriculture. 11. Computer Models in Agriculture: statistical, weather analysis and crop simulation models, concepts, structure, inputs-outputs files, limitation, advantages and application of models for understanding plant processes, sensitivity, verification, calibration and validation. 12. IT application for computation of water and nutrient requirement of crops, 13. Computer-controlled devices (automated systems) for Agriinput management, 14. Smartphone mobile apps in Agriculture for farm advises, market price, postharvest management etc; 15. Geospatial technology, concepts, techniques, components and uses for generating valuable agri-information. 16. Decision support systems, concepts, components and applications in Agriculture, 17. Agriculture Expert System, Soil Information Systems etc for supporting Farm decisions. 18. Preparation of contingent crop-planning and crop calendars using IT tools.

Practicals

1. Study of Computer Components, accessories, practice of important DOS Commands 2. Introduction of different operating systems such as windows, Unix/ Linux, Creating, Files & Folders, File Management 3. Use of MS-WORD and MS Power-point for creating, editing and presenting a scientific Document 4. MS-EXCEL - Creating a spreadsheet, use of statistical tools, writing expressions, creating graphs, analysis of scientific data, handling macros 5. MS-ACCESS: Creating Database, preparing queries and reports, demonstration of Agri-information system 6. Introduction to World Wide Web (WWW) and its components. Hands on practice on Crop Simulation Models (CSM), DSSAT/Crop-Info/Crop Syst/ Wofost 7. Preparation of Inputs file for CSM and study of model outputs, computation of water and nutrient requirements of crop using CSM and IT tools 8. Use of smart phones and other devices in agro-advisory and dissemination of market information 9. Introduction of Geospatial Technology, for generating information important for Agriculture 10. Hands on practice on preparation of Decision Support System. Preparation of contingent crop planning.