

**DEPARTMENT OF AGRICULTURE**  
**SRK UNIVERSITY, BHOPAL**  
**Diploma of Agriculture (First Semester)**

**Semester- wise distribution of courses**

<b>I Semester</b>			
<b>S.NO.</b>	<b>SUBJECT TITLE</b>	<b>CODE</b>	<b>CREDIT</b>
1.	Fundamentals of Horticulture	DAG- 101	2(1+1)
2.	Fundamentals of Soil Science	DAG-102	2(1+1)
3.	Fundamentals of Agronomy	DAG- 103	4(3+1 )
4.	Rural Sociology & Educational psychology	DAG-104	2(2+0)
5.	Comprehension & Communication Skills in English	DAG-105	2(1+1)
	<b>Total</b>		<b>12(8+4)</b>

## **Fundamentals of Horticulture 2(1+1)**

### **Theory**

Horticulture - Its definition and branches, importance and scope; horticultural and botanical classification; climate and soil for horticultural crops; Plant propagation-methods and propagating structures; Seed dormancy, Seed germination, principles of orchard establishment; Principles and methods of training and pruning, juvenility and flower bud differentiation; unfruitfulness; pollination, pollinizers and pollinators; fertilization and parthenocarpy; medicinal and aromatic plants; importance of plant bio-regulators in horticulture. Irrigation – methods, Fertilizer application in horticultural crops.

### **Practical**

Identification of garden tools. Identification of horticultural crops. Preparation of seed bed/ nursery bed. Practice of sexual and asexual methods of propagation including micro-propagation. Layout and planting of orchard. Training and pruning of fruit trees. Preparation of potting mixture. Fertilizer application in different crops. Visits to commercial nurseries/orchard.

## **Fundamentals of Soil Science 3(2+1)**

### **Theory**

Soil as a natural body, Pedological and edaphological concepts of soil; Soil genesis: soil forming rocks and minerals; weathering, processes and factors of soil formation; Soil Profile, components of soil; Soil physical properties: soil-texture, structure, density and porosity, soil colour, consistence and plasticity; Elementary knowledge of soil taxonomy classification and soils of India; Soil water retention, movement and availability; Soil air, composition, gaseous exchange, problem and plant growth, Soil temperature; source, amount and flow of heat in soil; effect on plant growth, Soil reaction-pH, soil acidity and alkalinity, buffering, effect of pH on nutrient availability.

soil colloids inorganic and organic; silicate clays: constitution and properties; sources of charge; ion exchange, cation exchange capacity, base saturation; soil organic matter: composition, properties and its influence on soil properties; humic substances - nature and properties; soil organisms: macro and micro organisms, their beneficial and harmful effects; Soil pollution - behaviour of pesticides and inorganic contaminants, prevention and mitigation of soil pollution.

## **Practical**

Study of soil profile in field. Study of soil sampling tools, collection of representative soil sample, its processing and storage. Study of soil forming rocks and minerals. Determination of soil density, moisture content and porosity. Determination of soil texture by feel and Bouyoucos Methods. Studies of capillary rise phenomenon of water in soil column and water movement in soil. Determination of soil pH and electrical conductivity. Determination of cation exchange capacity of soil. Study of soil map. Determination of soil colour. Demonstration of heat transfer in soil. Estimation of organic matter content of soil.

## **Fundamentals of Agronomy 4(3+1)**

### **Theory**

Agronomy and its scope, seeds and sowing, tillage and tith, crop density and geometry, Crop nutrition, manures and fertilizers, nutrient use efficiency, water resources, soil-plant-water relationship, crop water requirement, water use efficiency, irrigation- scheduling criteria and methods, quality of irrigation water, logging.

Weeds- importance, classification, crop weed competition, concepts of weed management- principles and methods, herbicides- classification, selectivity and resistance, allelopathy. Growth and development of crops, factors affecting growth and development, plant ideotypes, crop rotation and its principles, adaptation and distribution of crops, crop management technologies in problematic areas, harvesting and threshing of crops.

### **Practical**

Identification of crops, seeds, fertilizers, pesticides and tillage implements, study of agro- climatic zones of India, Identification of weeds in crops, Methods of herbicide and fertilizer application, Study of yield contributing characters and yield estimation, Seed germination and viability test, Numerical exercises on fertilizer requirement, plant population, herbicides and water requirement, Use of tillage implements-reversible plough, one way plough, harrow, leveler, seed drill, Study of soil moisture measuring devices, Measurement of field capacity, bulk density and infiltration rate, Measurement of irrigation water.

## **Rural Sociology & Educational Psychology 2(2+0)**

### **Theory**

Sociology and Rural sociology: Definition and scope, its significance in agriculture extension, Social Ecology, Rural society, Social Groups, Social Stratification, Culture concept, Social Institution, Social Change & Development. Educational psychology: Meaning & its importance in agriculture extension. Behavior: Cognitive, affective, psychomotor domain, Personality, Learning, Motivation, Theories of Motivation, Intelligence.

## **Comprehension and Communication Skills in English 2(1+1)**

### **Theory**

War Minus Shooting- The sporting Spirit. A Dilemma- A layman looks at science Raymond B. Fosdick. You and Your English – Spoken English and broken English G.B. Shaw. Reading Comprehension, Vocabulary- Antonym, Synonym, Homophones, Homonyms, often confused words. Exercises to Help the students in the enrichment of vocabulary based on TOEFL and other competitive examinations. Functional grammar: Articles, Prepositions, Verb, Subject verb Agreement, Transformation, Synthesis, Direct and Indirect Narration. Written Skills: Paragraph writing, Precise writing, Report writing and Proposal writing. The Style: Importance of professional writing. Preparation of Curriculum Vitae and Job applications. Synopsis Writing. Interviews: kinds, Importance and process.

### **Practical**

Listening Comprehension: Listening to short talks lectures, speeches (scientific, commercial and general in nature). Oral Communication: Phonetics, stress and intonation, Conversation practice. Conversation: rate of speech, clarity of voice, speaking and Listening, politeness & Reading skills: reading dialogues, rapid reading, intensive reading, improving reading skills. Mock Interviews: testing initiative, team spirit, leadership, intellectual ability. Group Discussions.

**DEPARTMENT OF A GRICULTURE  
SRK UNIVERSITY, BHOPAL (M.P.)**

**PROGRAMME STRUCTURE  
ACADMIC SESSION: 2019-20**

**Diploma Agriculture First Semester**  
Subject Wise Distribution of marks and corresponding Credit

**Semester -I**

S.N.	Course code	Credit of the course	Name of the course	Internal Assessment		Assignment		End Semester exams		Practical exams		Total marks
				Max. Marks	Min. Marks	Max. Marks	Min. Marks	Max. Marks	Min. Marks	Max. Marks	Min. Marks	
1	DAG- 101	2(1+1)	Fundamentals of Horticulture	30	15	-	-	50	25	20	10	100
2	DAG-102	2(1+1)	Fundamentals of Soil Science	30	15	-	-	50	25	20	10	100
3	DAG- 103	4(3+1 )	Fundamentals of Agronomy	30	15	-	-	50	25	20	10	100
4	DAG-104	2(2+0)	Rural Sociology & Educational psychology	40	20	10	5	50	25	-	-	100
5	DAG-105	2(1+1)	Comprehension & Communication Skills in English	30	15	-	-	50	25	20	10	100
			<b>Minimum Marks</b>	-	<b>80</b>	-	<b>5</b>	-	<b>125</b>	-	<b>40</b>	<b>250</b>
<b>Total</b>		<b>12 (8+4)</b>	<b>Maximum Marks</b>	<b>160</b>	-	<b>10</b>		<b>250</b>	-	<b>80</b>	-	<b>500</b>