

	<p>6. Correlation and regression</p> <p>a. Definition and types of correlation</p> <p>b. Coefficient of correlation and its properties</p> <p>c. Methods of studying correlation: Scatter diagram and Karl Pearson's coefficient of correlation</p> <p>d. Coefficient of determination (r^2)</p> <p>e. Regression analysis</p> <p>i. Definition and types of regression</p> <p>ii. Linear regression</p>	04	
Sept-2016	<p>7. Probability and types of theoretical probability distribution</p> <p>a. Concept of probability</p> <p>b. Binomial distribution</p> <p>c. Poisson distribution</p> <p>d. Normal distribution</p> <p>i. Normal distribution curve</p> <p>ii. Relationship between normal curve area and standard deviation</p> <p>iii. Properties of normal distribution curve</p>	04	
	<p>8. Tests of significance of mean</p> <p>a. Introduction</p> <p>b. Statistic and its standard error</p> <p>c. Meaning of statistical hypothesis, level of significance, null hypothesis and alternative hypothesis</p> <p>d. Student's 't' test: unpaired and paired test</p> <p>e. χ^2 test as a test of goodness of fit and its significance</p>	04	
	<p>9. Computation of seed testing and plant growth indices</p> <p>a. Seed germination and early seedling growth.</p> <p>i. Germination percentage</p> <p>ii. Mean germination time (MGT)</p> <p>iii. Germination index (GI)</p> <p>iv. Germination speed (GS)</p> <p>v. Vigor index (VI)</p> <p>b. Seed germination and early seedling growth under stress</p> <p>i. Promptness index (PI)</p> <p>ii. Germination stress tolerance index (GSI),</p> <p>iii. Plant height stress tolerance index (PHSI)</p> <p>iv. Root length stress tolerance index (RLSI)</p> <p>v. Dry matter stress tolerance index (DMSI)</p> <p>c. Plant growth indices</p> <p>i. Absolute Growth Rate (AGR)</p> <p>ii. Crop Growth Rate (CGR)</p> <p>iii. Relative Growth Rate (RGR)</p> <p>iv. Leaf Area Index (LAI)</p>	10	
Oct- 2016	<p>10. Analysis of data on vegetation studies</p> <p>a. Data obtained from quadrates and transects methods</p> <p>i. Frequency</p> <p>ii. Percent frequency</p> <p>iii. Relative frequency</p> <p>iv. Density</p> <p>v. Relative density</p> <p>vi. Abundance</p> <p>vii. Dominance</p> <p>b. Computation of crop/vegetation biomass using satellite data</p> <p>i. Simple Ratio (SR) or Ratio Vegetation Index (RVI)</p> <p>ii. Difference Vegetation Index (DVI),</p> <p>iii. Normalised Difference Vegetation index (NDVI) or greenness index</p>	06	Tutorial – 2 & Field Visit

Sign. of the Subject Teacher

Sign of Head of Department

Month & Year	Title of the Topic	No. of Lectures	Test / Tutorial
15Nov.2016	A. PLANT BREEDING		Tutorial – 3
	1. Introduction, scope and importance Definition, scope of plant Breeding and importance 2. Conventional techniques, methods and practices of breeding (a) Plant introduction and acclimatization i. Concept, objectives ii. Types of plant introduction iii. Advantage, limitations/ Disadvantages and achievements. (b) Selection methods i. Concept, ii. Types of selections –mass selection, pure line selection and clonal selection. iii. Advantage and disadvantages/limitations, achievements. (c) Hybridization i. Definition and Concept, ii. Difficulties in crop hybridization and precaution to be taken during hybridization iii. General procedure of hybridization iv. Parent selection in a breeding program v. Criteria for selecting parents Breeding Methodology i. Pedigree method ii. Bulk method iii. Single-seed descent method iv. Backcross method, Achievements (d) Heterosis and hybrid vigour i. Concept ii. Causes of heterosis- dominance hypothesis iii. Applications	02 10	
Dec-2016	3. Alternative breeding techniques (a) Mutation breeding Introduction and concept Types of Mutation induced mutagenesis mutagens used -Chemical and physical mutagensmethods of working Gamma gardens, concept and designApplications (b) Importance of Polyploidy and aneuploidy in crop improvement Properties of polyploids, Methods of obtaining polyploids Methods used in obtaining haploids Production of triploids in plant breeding Applications and achievements	08	
	4. Breeding for stress tolerance Mechanisms and genetic bases of resistance/tolerance to biotic and abiotic stresses in plants, Breeding for resistance/tolerance. Molecular Approaches Characteristics evaluated for drought tolerance Characteristics evaluated for insect/pest tolerance Achievements	04	
Jan-2017	B. SEED TECHNOLOGY		Tutorial – 4 &
	5. Introduction Definition of seed, Stages of Seed Production, Classes of Seed (nucleus seed, breeders seed, foundation seed, certified seed and truthful seed),Role of seed technology	02	Field Visit

	6Seed certification General procedure of seed certification, field inspection, observation during inspection, field count, Duties of seed inspector.	02	
	7.Seed processing Concept Principle and techniques of processing of seeds	02	
	8.Seed sampling, storage and packaging Seed sampling, Types of seed samples, Sampling equipment's. Factor affecting seed storage and need of seed storage, Methods of protection and control, Air conditioning and dehumidification, Sanitation and fumigation of seed stores. Seed sorting and bagging, bag weighing, bag closing, type of bag closer, Labelling and maintaining lot identify, lot numbers, seed pellets, Handling and stacking, Maintenance of seed processing record.	06	
Feb 2017	9.Physical purity analysis Definition of purity components ,Procedure ODV test Reporting and results	03	
	10.Seed Testing A. Moisture Testing By air oven method Moisture meters.	03	
	B. Germination testing Definition and objectives, General principles and requirements, Procedure and methods (Paper, Sand and Soil) Seedling evaluation.	03	
	11.Seed Marketing Marketing- Basic concepts, supply & demand, price equilibrium, seed transportation, storage, cost & returns, cost processing, packing and marketing, Organization for seed marketing, seed markets in India, structure & working	03	
Mar 2017	Practical exam		

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