

**COLLEGE OF AGRICULTURE**  
**Lecture Programme-3<sup>rd</sup> Year 1<sup>st</sup> Sem (2016-17)**

**Course: Breeding of field and horticultural crops (PBG-4311)**

**Credit : 3(2+1)**

**Name of Teacher: Dr. R.K. Rathore**

**Class Time: As per time table**

| Lecture No. | Title of lecture  | Schedule Date |
|-------------|---|---------------|
|             | <b>Theory</b>   |               |
| 1           | Introduction – definition, aim, objectives and scope of the course no. PBG-4311(Breeding for field and horticultural crops)   | 18.07.2016    |
| 2           | Layout of breeding experiments  | 22.07.2016    |
| 3           | Botany and taxonomy, chromosome number  | 25.07..2016   |
| 4           | Breeding objectives and constraints   | 29.07.2016    |
| 5           | Conventional and nonconventional breeding methodologies   | 01.08.2016    |
| 6           | Hybridization techniques  | 05.08.2016    |
| 7           | Disease and pest resistance   | 08.08.2016    |
| 8           | Quality improvement   | 12.08.2016    |
| 9           | Cereals – maize – origin – distribution of species – wild relatives and forms –breeding objectives – major breeding procedures for development of hybrids /varieties and their salient features     | 19.08.2016    |
| 10          | Cereals – wheat – origin – distribution of species – wild relatives and forms – breeding objectives – major breeding procedures for development of hybrids /varieties and their salient features    | 22.08.2016    |
| 11          | Cereals – rice – origin – distribution of species – wild relatives and forms –breeding objectives – major breeding procedures for development of hybrids /varieties and their salient features      | 26.08.2016    |
| 12          | Millets – sorghum – origin – distribution of species – wild relatives and forms –breeding objectives – major breeding procedures for development of hybrids / varieties and their salient features  | 29.08.2016    |
| 13          | Millets – bajra – origin – distribution of species – wild relatives and forms – breeding objectives – major breeding procedures for development of hybrids / varieties and their salient features   | 02.09.2016    |
| 14          | Pulses – Mungbean – origin – distribution of species – wild relatives and forms – breeding objectives – major breeding procedures for development of hybrids / varieties and their salient features | 05.09.2016    |

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| 15 | Pulses – Gram– origin – distribution of species – wild relatives and forms – breeding objectives – major breeding procedures for development of hybrids / varieties and their salient features            | 16.09.2016 |
| 16 | Oilseeds – groundnut – origin – distribution of species – wild relatives and forms – breeding objectives – major breeding procedures for development of hybrids / varieties and their salient features    | 19.09.2016 |
| 17 | Oilseeds – mustard – origin – distribution of species – wild relatives and forms – breeding objectives – major breeding procedures for development of hybrids / varieties and their salient features      | 23.09.2016 |
| 18 | Oilseeds – sesame – origin – distribution of species – wild relatives and forms – breeding objectives – major breeding procedures for development of hybrids / varieties and their salient features       | 26.09.2016 |
| 19 | Oilseeds – castor – origin – distribution of species – wild relatives and forms – breeding objectives – major breeding procedures for development of hybrids / varieties and their salient features       | 30.09.2016 |
| 20 | Fibre crops – cotton – origin – distribution of species – wild relatives and forms – breeding objectives – major breeding procedures for development of hybrids / varieties and their salient features    | 03.10.2016 |
| 21 | Sugarcane – origin – distribution of species – wild relatives and forms – breeding objectives – major breeding procedures for development of hybrids / varieties and their salient features               | 07.10.2016 |
| 22 | Vegetables – potato – origin – distribution of species – wild relatives and forms – breeding objectives – major breeding procedures for development of hybrids / varieties and their salient features     | 10.10.2016 |
| 23 | Vegetables – tomato– origin – distribution of species – wild relatives and forms – breeding objectives – major breeding procedures for development of hybrids / varieties and their salient features      | 14.10.2016 |
| 24 | Vegetables –cauliflower – origin – distribution of species – wild relatives and forms – breeding objectives – major breeding procedures for development of hybrids / varieties and their salient features | 17.10.2016 |
| 25 | Vegetables – chillies – origin – distribution of species – wild relatives and forms – breeding objectives – major breeding procedures for development of hybrids / varieties and their salient features   | 21.10.2016 |
| 26 | Vegetables – coriander – origin – distribution of species – wild relatives  | 24.10.2016 |

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|    | and forms – breeding objectives – major breeding procedures for development of hybrids / varieties and their salient features   |            |
| 27 | Vegetables – fenugreek – origin – distribution of species – wild relatives and forms – breeding objectives – major breeding procedures for development of hybrids / varieties and their salient features  | 28.10.2016 |
| 28 | Flower crops – marigold – origin – distribution of species – wild relatives and forms – breeding objectives – major breeding procedures for development of hybrids / varieties and their salient features | 31.10.2016 |
| 29 | Flower crops – rose – origin – distribution of species – wild relatives and forms – breeding objectives – major breeding procedures for development of hybrids / varieties and their salient features     | 04.11.2016 |
| 30 | Fruit crops – mango – origin – distribution of species – wild relatives and forms – breeding objectives – major breeding procedures for development of hybrids / varieties and their salient features     | 07.11.2016 |
| 31 | Fruit crops – papaya – origin – distribution of species – wild relatives and forms – breeding objectives – major breeding procedures for development of hybrids / varieties and their salient features    | 11.11.2016 |
| 32 | Fruit crops – amla – origin – distribution of species – wild relatives and forms – breeding objectives – major breeding procedures for development of hybrids / varieties and their salient features      | 18.11.2015 |
|    | <b>Practical</b>  |            |
| 1  | Layout of breeding experiments  | 19.07.2016 |
| 2  | Study of floral biology, germplasm and segregating populations  | 26.07.2016 |
| 3  | Hybridization techniques  | 02.08.2016 |
| 4  | Hybridization techniques  | 09.08.2016 |
| 5  | Heterosis and calculation of its parameters   | 16.08.2016 |
| 6  | Heterosis and calculation of its parameters   | 23.08.2016 |
| 7  | Inbreeding depression and calculation of its parameters   | 30.08.2016 |
| 8  | Inbreeding depression and calculation of its parameters   | 02.09.2016 |
| 9  | Calculation of different variability parameters   | 09.09.2016 |
| 10 | Calculation of different variability parameters   | 16.09.2016 |
| 11 | Observation recording   | 23.09.2016 |
| 12 | Observation recording   | 30.09.2016 |
| 13 | Analysis and interpretation of breeding trials  | 04.10.2016 |

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| 14 | Analysis and interpretation of breeding trials  | 18.10.2016 |
| 15 | Salient features of varieties recommended for the region for the crops as listed in theory portion (available at the time of semester). | 09.11.2016 |
| 16 | Salient features of varieties recommended for the region for the crops as listed in theory portion (available at the time of semester). | 16.11.2016 |

**Course: AGRON 4311- Field Crops-I (Kharif)**

**Credits: 1(0+1)**

**Teacher: Mr. L. K. Jain**

**Class Time: As per time table**

**Discipline: Agronomy**

| Lecture No.       | Topic  | Scheduled Date |
|-------------------|--|----------------|
| <b>Practical:</b> |  |                |
| 1.                | Introduction of the course, crop planning and allotment of field   | 15.7.16        |
| 2.                | Field preparation, application of manures and fertilizers  | 22.7.16        |
| 3.                | Selection of crop and varieties, seed treatment and sowing   | 29.7.16        |
| 4.                | Sowing of crops.   | 05.8.16        |
| 5.                | Observation of germination   | 12.8.16        |
| 6.                | Thinning and gap filling   | 19.8.16        |
| 7.                | Intercultural operations-hoeing and weeding  | 26.8.16        |
| 8.                | Intercultural operations-hoeing and weeding  | 02.09.16       |
| 9.                | Water management- application of irrigation water and demonstrating methods of irrigation  | 09.09.16       |
| 10.               | Top dressing of fertilizer (urea).   | 16.09.16       |
| 11.               | Insect and pest management (control)- application of insecticides  | 23.09.16       |
| 12.               | Disease management (control)- application of fungicides  | 30.09.16       |
| 13.               | Harvesting   | 07.10.16       |
| 14.               | Threshing, winnowing and storage   | 14.10.16       |
| 15.               | Marketing of produce   | 21.10.16       |
| 16.               | Preparation of balance sheet including estimating cost of cultivation and net return per student as well as per team of a group of student | 28.10.16       |

Course: AGRON 4312- Rainfed Farming

Credits: 2(1+1)

Teacher: Mr. L. K. Jain

Class Time: As per time table

Discipline: Agronomy

| Lecture No.      | Topic   | Scheduled Date |
|------------------|---|----------------|
| <b>Theory:</b>   |   |                |
| 1.               | Rainfed agriculture- definition, history and its importance in India with particular to references Rajasthan                              | 19.7.16        |
| 2.               | Problems of dryland agriculture related to climate, soil, technological and socio economic conditions                                     | 26.7.16        |
| 3.               | Delineating criteria for rainfed and dryland farming  | 02.8.16        |
| 4.               | Efficient utilization of water by reducing water losses through mulching  | 09.8.16        |
| 5.               | Use of antitranspirants-their kind, mode of action and effect on crop yield.  | 16.8.16        |
| 6.               | Increasing water storage and reducing run off and infiltration through mechanical measures  | 23.8.16        |
| 7.               | Increasing water storage and reducing run off and infiltration through cultural measures  | 30.8.16        |
| 8.               | Water harvesting techniques in dry farming areas  | 06.09.16       |
| 9.               | Watershed management- concept, definition, objectives and principles  | 13.09.16       |
| 10.              | Integrated watershed management for drylands  | 20.09.16       |
| 11.              | Efficient management of dryland crops viz. land preparation, seeding and crop density   | 27.09.16       |
| 12.              | Selection of efficient crops and their varieties for dryland farming  | 04.10.16       |
| 13.              | Alternate cropping and land use strategies for dryland agriculture  | 18.10.16       |
| 14.              | Soil fertility management and fertilizer use techniques for drylands  | 25.10.16       |
| 15.              | Weed control and intercultural operations for dry lands   | 08.11.16       |
| 16.              | Mid season corrections for mitigating the aberrant weather  | 15.11.16       |
| <b>Practical</b> |   |                |
| 1.               | Climatic conditions prevalent at the various dry land research centers of the country and delineating criteria for rain fed and dry lands | 21.7.16        |
| 2.               | Pattern of rainfall in different dryland tracts of the country  | 28.7.16        |
| 3.               | Onset and withdrawal of the monsoon, amount, intensity distribution and studies on the effective cropping season                          | 04.8.16        |
| 4.               | Critical analysis of rainfall and estimation of moisture index and aridity index.   | 11.8.16        |
| 5.               | Spray of antitranspirants on dryland crops and their effect on crops  | 01.8.16        |
| 6.               | Crops and cropping systems for drylands   | 08.09.16       |
| 7.               | Acquiring skill in tillage methods for <i>in-situ</i> moisture conservation   | 15.09.16       |
| 8.               | Mulching and its effects on soil moistures conservation   | 22.09.16       |
| 9.               | Seed soaking, seed treatment with chemicals for sowing in dryland areas   | 29.09.16       |
| 10.              | Methods of fertilizer application in dryland areas  | 06.10.16       |
| 11.              | Effect of plant density, thinning, leaf removal under moisture stress condition on crop growth  | 13.10.16       |
| 12.              | Study of salient features of a model watershed  | 20.10.16       |
| 13.              | Alternate land use strategies for dryland areas.  | 27.10.16       |
| 14.              | Agro forestry, grass legume forage and alley cropping systems.  | 03.11.16       |
| 15.              | Visit to dryland experiments and watershed management practices   | 10.11.16       |
| 16.              | Study of runoff plots and soil /nutrient losses   | 17.11.16       |

Course: AECON- 4311- Agricultural Marketing, Trade and Prices

Credits: 2(1+1)

Teacher: Dr. P. C. Meena

Class Time: As per time table

Discipline: Ag. Economics

| Lecture No.      | Topic  | Scheduled Date |
|------------------|--|----------------|
|                  | <b>Theory</b>  |                |
| 1                | Agricultural marketing:-Concept and Definitions, Scope and subject matter  | 21-07-2016     |
| 2                | Market and Marketing Meaning, Definitions, Component of a market, Classification   | 28-07-2016     |
| 3                | Market structure, Conduct, performance   | 04-08-2016     |
| 4                | Market Functionaries or agencies   | 11-08-2016     |
| 5                | Producer's surplus; Meaning, Types of producers surplus , marketable surplus marketed surplus importance, factors affecting marketable surplus   | 01-09-2016     |
| 6                | Marketing channels: Meaning , Definition,Channels for different products   | 08-09-2016     |
| 7                | Market integration, Meaning definition , Types of market integration   | 15-09-2016     |
| 8                | Marketing efficiency:- Meaning ,Definition, Marketing cost, margins and price spread , factor affecting the cost of marketing, reasons for higher marketing cost of farm commodities ways of reducing marketing cost | 22-09-2016     |
| 9                | Theories of International trade: Domestic Trade, Free Trade International Trade  | 29-09-2016     |
| 10               | GATT, WTO, implications of AOA, Market access  | 06-10-2016     |
| 11               | Domestic support, Export subsidies, EXIM- policy & Ministerial conferences   | 13-10-2016     |
| 12               | Cooperative marketing , state trade  | 20-10-2016     |
| 13               | Ware housing Corporation: Central and State, objective functions Advantages  | 27-10-2016     |
| 14               | Food Corporation of India: objective and functions, Quality control, Agricultural Products, AGMARK   | 03-11-2016     |
| 15               | Price Characteristics of Agricultural product process, Meaning , Need for Agricultural price policy  | 10-11-2016     |
| 16               | Risk in Marketing: Meaning and importance, Types of risk in Marketing  | 17-11-2016     |
| 17               | Speculations and Hedging, Futures trading, Contract farming.   | 24-11-2016     |
| <b>Practical</b> |  |                |
| 1                | To study the marketing cost and marketing margin   | 20-07-2016     |
| 2                | To study the marketing efficiency  | 27-07-2016     |
| 3                | Calculation of Marketable & Marketed Surplus   | 03-08-2016     |
| 4                | To study of Rythu Bazars   | 10-08-2016     |
| 5                | Analysis of demand function  | 17-08-2016     |
| 6                | To estimation the relation between price and arrivals of crops   | 24-08-2016     |
| 7                | Visit to marketing institution   | 31-08-2016     |
| 8                | Study of state Ware-Housing corporation  | 07-09-2016     |
| 9                | To study Central ware housing Corporation  | 14-09-2016     |
| 10               | To study NAFED   | 21-09-2016     |
| 11               | To study of State Trading  | 28-09-2016     |

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| 12 | To study of Unregulated Market          | 05-10-2016 |
| 13 | Analysis of information of daily prices | 19-10-2016 |
| 14 | To study Regulated Market               | 26-10-2016 |
| 15 | To study of Livestock Markets           | 02-11-2016 |
| 16 | Identification of Marketing Channels    | 09-11-2016 |