Course outline

Winter, 2016

**Subject: Breeding field crops (GPB-541)**

# **Department of Genetics and Plant Breeding**

## **Bangabandhu Sheikh Mujibur Rahman Agricultural University**

# **Course Instructor:** Professor Umakanta Sarker

**Prerequisite:** **Plant Breeding (GPB-521)**

**Marks Distribution:**

|  |  |
| --- | --- |
| **Items** | **Marks distribution** |
| Quiz (03) | 10 |
| Term paper/ HA | 10 |
| First Mid Term | 25 |
| Second Mid Term | 25 |
| Final Exam. | 30 |
| Total marks | 100 |
|  |

**Grading:**

|  |  |  |
| --- | --- | --- |
| **Grade** | **GPA** | **Range of Marks** |
| A+ | 4 | 80% and above |
| A | 3.75 | 75 - 79.99% |
| A- | 3.5 |  70 - 74.99% |
| B+ | 3.25 | 65 - 69.99% |
| B  | 3 | 60 - 64.99% |
| B- | 2.75 | 55 - 59.99% |
| C+  | 2.5 | 50- 54.99% |
| C | 2.25 | 45- 49.99% |
| D | 2 | 40- 44.99% |
| F | - | F = less than 40% |
| E | - | Final Examination not taken |
| I | - | Incomplete |

#### Tentative class schedule for the term winter, 2015

|  |  |
| --- | --- |
| **Date** | **Topic/ Test** |
| November,13, 2016 | Introductory class |
| November, 15, 2016 | Tools of the plant breeder (Holiday) (special class to be arranged in suitable date) |
| November, 16, 2016 | -do-  |
| November, 21, 2016 | -do- |
| November, 22, 2016 | -do- (Holiday) (special class to be arranged in suitable date) |
| November, 23, 2016 | Methods in plant breeding  |
| November, 28, 2016 | -do- |
| November, 29, 2016 | -do- |
| November, 30, 2016 | -do- (Holiday) (special class to be arranged in suitable date) |
| December, 5, 2016 | Breeding techniques in rice  |
| December, 6, 2016 | -do- |
| December, 7, 2016 | -do- |
| December, 12, 2016 | Breeding techniques in wheat (Holiday) (special class to be arranged) |
| **December,13 2016** | **FIRST MID TERM**  |
| December,14, 2016 | -do- (Holiday) (special class to be arranged in suitable date) |
| December, 19, 2016 | -do-  |
| December, 20, 2016 | Breeding techniques in maize |
| December, 21, 2016 | -do- |
| December, 26, 2016 | -do- |
| December, 27, 2016 | -do- |
| December, 28, 2016 | Breeding techniques in jute |
| January, 2, 2017 | -do-  |
| January, 3, 2017 | -do-  |
| **January, 4, 2017** | **SECOND MID TERM** |
| January, 9, 2017 | Breeding techniques in sugar cane  |
| January, 10, 2017 | -do-  |
| January, 11, 2017 | -do- |
| January, 16, 2017 | Breeding techniques in potato |
| January, 17, 2017 | -do- |
| January, 18, 2017 | -do-  |
| January, 23, 2017 | -do- |
| January, 24, 2017 | Breeding techniques in oil seed  |
| January, 25, 2017 | -do- |
| January, 30, 2017 | -do- |
| January, 31, 2017 | **-do-** |
| February 1, 2017 | Breeding techniques in pulse |
| February 6, 2017 | -do-  |
| February 7, 2017 | -do-  |
| February 8, 2017 | -do-  |
| **February 9-16, 2017** | FINAL EXAMINATION |

**BOOK REFERENCES**

1. John Milton Poehlman and David Allen Sleper. 1995. Breeding Field Crops. Panima Publishing Corporation. New Delhi, India.
2. John Milton Poehlman. 1959. Breeding Field Crops. Henry Holt and Company Inc. New York, U. S. A.
3. John Milton Poehlman and Direndranath Borthakur. 1959. Breeding Asian Field Crops. Oxford & IBH Publishing Company, New Delhi, India.
4. R. L. Kapor and M. L. Saini (eds.). 1985. Plant Breeding and Crop Improvement Vol.-I. CBS Publishers and Distributors, Dayaganj, New Delhi, India.
5. R. L. Kapor and M. L. Saini (eds.). 1985. Plant Breeding and Crop Improvement Vol.-II. CBS Publishers and Distributors, Dayaganj, New Delhi, India.
6. Hari Har Ram and Hari Govind Singh. 1998. Crop Breeding and Genetics. Kalyani Publishers, New Delhi, India.
7. G. E. Russell (ed.). 1985. Progress in Plant Breeding. Butterworth & Co (Publishers) Ltd.
8. D. R. Wood. (ed.) 1980. Crop Breeding. The American Society of Agronomy, Inc., and the Crop Science society of American, Inc.
9. P. R. Jennings, W. R. Coffman and H. E. Kauffman (eds.). 1979. Rice Improvement. Int. Rice Res. Institute, Los Banos, Philippines.
10. G. S. Khush and G. H. Toenniessen (eds.). 1991. Rice Biotechnology. Int. Rice Res. Institute, Philippines.
11. F. G. H. Lupton (ed.). 1987. Wheat Breeding its scientific basis. Chapman and Hall, London, U. K.
12. David R. Murray (ed.). 1991. Advanced Methods in Plant Breeding and Biotechnology. CAB International.

**N. B. :-** Other Rice, Wheat, Maize, Jute, Sugarcane, Potato, Oilseed and Pulse etc individual crop Breeding and Improvement related books might also be concerned.

###### Term paper for the term winter, 2016

**1. Gene transfer to plants using Agrobacterium**

**2. Breeding plants for resistance to physiological stress**

**3. Breeding wheat varieties for target environment**

**4. Breeding for quality in pulses**

**5. Oil seed breeding and its advances**

**6. Genetic diversity of wild and cultivated rice**

**7. Gene expression in rice**

**8. Potentially useful genes for rice genetic engineering**

**9. Application of biotechnology in sugarcane**

**10. Somatic hybridization as a tool in plant breeding**

**11. Screening techniques for disease resistance in plant**

**12. Breeding crop varieties for salt stressed environments**

**N. B. Date of submission and presentation of term paper: February 2, 2017 (Thirsday)**