

**DEPARTMENT OF GENETICS AND PLANT BREEDING**  
BSMRAU, Gazipur 1706  
**Course Title: Methods of Plant Breeding, Course Code: GPB 465**  
**Winter 2019 Term**

**Course instructor:** Prof. Dr. A. K. M. Aminul Islam & Dr. Mohammad Sharif Raihan,  
Assoc. Prof.

**Pre-requisite**

Cytology, Cytogenetics, Elementary Genetics and Principles of Plant Breeding

**Text and Reference books:**

1. Essential of Plant Breeding by P. Singh
2. Plant Breeding : Principles and practice by B. D. Singh
3. Plant Breeding : Theory and practice by V. L. Chopra
4. Elementary Principles of Plant Breeding by H. K. Chaudhary
5. Fundamentals of Plant Breeding and Hybrid Seed Production by B.L Agarwal

**Grading:** A<sup>+</sup> (>80%), A (>75%), A<sup>-</sup> (>70%), B<sup>+</sup> (>65%), B (>60%), B<sup>-</sup> (>55%), C<sup>+</sup> (>50%), C (>45%), D (>40%), and F (<40%) grade

**Question Type:** Multiple choices, true & false, fill in the blanks, definition, short questions, draw & label figures, conceptual questions and genetic problems to solve

**Course Evaluation**

	<b>Events</b>	<b>Date</b>	<b>Marks</b>
<b>Theory</b>	Quiz and/ or assignment	Unnoticed	10
	1 <sup>st</sup> mid term examination	4 <sup>th</sup> week of the term	25
	2 <sup>nd</sup> mid term examination	7 <sup>th</sup> week of the term	25
	Final examination	11 <sup>th</sup> week of the term	40
<b>Practical</b>	Lab. works during classes, attendance, practical note book	Unnoticed	30
	Final examination	As scheduled by Dean office	20
<b>Total</b>			150

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Sl. No.	Topics/Contents	Class Lecture	Total Class	Date
1	Introduction about the course <b>Variability and crop improvement</b> Definition, sources of variation, estimation, importance in crop improvement	1	1	25 November 2019 (Monday)
2	<b>Varieties and Cultivars in Plant Breeding</b> Definition, Characteristic and Types	1	2	26 November 2019 (Tuesday)
3	<b>Plant Breeding Methods</b> Pollination, mode and mechanism of pollination, breeding methods of different crops	1	3	27 November 2019 (Wednesday)
4	<b>Breeding Methods for Self Pollinated Crops</b> Introduction and acclimatization	1	4	2 December 2019 (Monday)
5	<b>Breeding Methods for Self Pollinated Crops</b> Mass selection and pure line selection	1	5	3 December 2019 (Tuesday)
6	<b>Breeding Methods for Self Pollinated Crops</b> Pedigree and bulk method	1, 2	7	4, 9 December 2019 (Wednesday, Monday)
7	<b>Breeding Methods for Self Pollinated Crops</b> Modified bulk and SSD method	1	8	10 December 2019 (Tuesday)
8	<b>Breeding Methods for Self Pollinated Crops</b> Back cross method	1	9	11 December 2019 (Wednesday)
<i>1<sup>st</sup> Mid term exam. (17 December 2018 Tuesday)</i>				
9	<b>Biometrical approach in plant breeding</b> Components of variation, gene action, heritability, genetic advance, heterosis, inbreeding depression, G x E	1	11	18 December 2019 (Wednesday)
10	<b>Breeding Methods for Cross Pollinated Crops</b> Back cross method	1, 2, 3	14	23, 24, 30 December 2019 (Monday, Tuesday, Monday)
	<b>Breeding methods for clonally propagated crops</b>	1	15	31 December 2019 (Tuesday)
11	<b>Synthetic and composite variety development</b>	1	16	01 January 2020 (Wednesday)
	<b>Hybrid variety development</b>	1	17	06 January 2020 (Monday)
12	<b>Mutation breeding</b>	1, 2	19	7, 8 January 2020 (Tuesday, Wednesday)
13	<b>Polyploidy breeding</b>	1	20	13 January 2020 (Monday)
<i>2<sup>nd</sup> Mid Term Exam. (14 January 2018 Tuesday)</i>				
14	<b>Double haploid production</b>	1, 2	22	15, 20 January 2020 (Wednesday, Monday)
15	<b>Breeding techniques in economic crops (rice, maize and sugarcane)</b>	1, 2, 3	25	21, 22, 27 January 2020 (Tuesday, Wednesday, Monday)
16	<b>Distant hybridization</b>	1	26	28 January 2020 (Tuesday)
17	<b>The organizations involve in plant breeding for crop improvement</b>	1	27	29 January 2020 (Wednesday)
18	<b>Variety release and registration system</b>	1,2	29	03, 04 February 2020 (Monday, Tuesday)
19	Review class	1, 2	30	05, 10 February 2020 (Wednesday, Monday)
<i>Final Exam. (February 2019, Scheduled by Dean Office)</i>				