SH-V/Botany/503/DSE-2/19

B.Sc. 5th Semester (Honours) Examination, 2019-20

BOTANY

Course ID : 51317 **Course Code : SHBOT-503-DSE-2**

Course Title: Plant Breeding

Time: 2 Hours **Full Marks: 40**

The figures in the margin indicate full marks.
The questions are of equal value.

1. Answer any *five* questions: 2×5=10

(a) What is Primary introduction?

(b) What do you mean by inbreeding depression?

(c) What is nobilization?

(d) Distinguish between domestication and acclimatization.

(e) What is distant hybridization?

(f) What is secondary origin of plants?

(g) What is polygenic inheritance?

(h) Name two national institutes working in plant breeding programme.

2. Answer *any four* questions from the following: 5×4=20

(a) What is quantitative trait? Explain polygenic inheritances with suitable example. 1+4=5

(b) State specific objects of plant breeding and discuss the significance of hybridization in plant breeding. 3+2=5

(c) How does spontaneous mutation occur? Differentiate Transition and Transversion. 3+2=5

(d) Define heterosis. Explain the genetic basis of heterosis breeding of crops. 1+4=5

(e) What is segmental allopolyploidy? Write the significance of polyploidy. 2+3=5

(f) Define Pure line. Describe the stages of pure line selection for the improvement of Crop plants. 1+4=5

3. Answer *any one* question from the following: 10×1=10

(a) Comment on various types of selection methods employed in Cross Pollinated Crops. Briefly discuss the application of allopolyploidy. 4+6=10

(b) Describe the impact of plant biotechnology in Crop improvement. What do you mean by molecular breeding? 8+2=10

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