

QUESTION BANK
SEMESTER IV
SEC - B
PLANT BREEDING (BOT-A-SEC-B-4-3)

VERY SHORT ANSWER TYPE QUESTIONS

Q.1 Answer the following questions:

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| a) Write the full form of NBPGR. | 1 |
| b) What is cms? Which cell organelle is involved in the process? | 2 |
| c) What is pure line? | 1 |
| d) Define restorer line in male sterility. | 2 |
| e) What is inbreeding depression | 1 |
| f) Mention two types of DNA markers used in molecular breeding. | 2 |
| g) Define clone. | 1 |
| h) What is incompatibility? | 1 |
| i) What is emasculation? | 1 |
| j) What are molecular markers? | 1 |

SHORT ANSWER TYPE QUESTIONS

(5 marks)

Q.2 Answer the following questions:

- a) Application of back cross method in plant breeding.
- b) Procedure of mass selection in self-pollinated crops.
- c) Genetic basis of heterosis.
- d) Distinguish between mass selection and pure line selection.
- e) Write a note on different devices adopted for maintaining the germplasm.
- f) Mention the use of DNA markers in plant breeding.
- g) Explain how male sterility can be utilised in plant breeding.
- h) Discuss the hybridisation in cross-pollinated crops.
- i) Compare the procedure in pure line and mass selection.
- j) What is cytoplasmic male sterility? State its uses in plant breeding.
- k) Discuss different methods of germplasm maintenance.
- l) What is heterosis? How it can be utilized for the production of hybrid seeds?
- m) Enumerate the different steps of hybridization.
- n) How would you perform hybridization in a self pollinated crop?
- o) What type of selection practice is done in vegetatively reproducing plant? Write down the procedure and merits of this process.
- p) Define male sterility? What are its different types and controlling factors?
- q) Write short notes on: Gene bank and Gene sanctuary.
- r) Define Biotechnology. What are the recent techniques adopted in crop improvement.