(B) What is Seed Technology ? Explain its role and goals in agriculture. 45

6. (A) Describe the process of mass production of NPV for Spodoptera Letura.

(B) What is a lawn ? Briefly describe preparation of an ideal lawn in the garden. 45

7. (A) Answer the following in brief (any **five**) :

(1) Enlist various types of insecticidal formulations available in market with suitable examples.

(2) Discuss different problems associated with breeding forage crops.

(3) Give characteristics of good potato seed tubers.

(4) Describe the factors responsible for deterioration of variety.

(5) What are the advantages of seed treatment for the control of insect pests ?

(6) Give importance of proteins and carbohydrates in human diet.

(B) State causal organisms, describe the characteristic symptoms and control measures of the following diseases (any **five**) :

(1) Bacterial blight of rice (2) Black rust of wheat

(3) Red rot of sugarcane (4) White rust of mustard

(5) Ergot of bajra (6) Wilt of cotton

(7) Root-knot of tobacco. 45

8. Write short notes on the following (any **five**) :

(1) Quarantine

(2) Importance of vegetables in human diet

(3) Rockery

(4) Post harvest handling of cut flowers

(5) Noblization of Indian cane

(6) Seed processing

(7) Role of Ethylene in agriculture. 45

Total No. of Printed Pages : 4 **Roll No. .....**

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Agriculture–II

(01)

Time : Three Hours Maximum Marks : 300

INSTRUCTIONS

(i) Answers must be written in English.

(ii) The number of marks carried by each question is indicated at the end of the question.

(iii) The answer to each question or part thereof should begin on a fresh page.

(iv) Your answers should be precise and coherent.

(v) The part/parts of the same question must be answered together and should not be interposed between answers to other questions.

(vi) Candidates should attempt question nos. **2** and **4** which are compulsory and any **four** more out of the remaining questions.

(vii) If you encounter any typographical error, please read it as it appears in the text book.

(viii) Candidates are in their own interest advised to go through the General Instructions on the back side of the title page of the Answer Script for strict adherence.

(ix) No continuation sheets shall be provided to any candidate under any circumstances.

(x) Candidates shall put a cross (X) on blank pages of Answer Script.

(xi) No blank page be left in between answer to various questions.

1. (A) Define the following terms (any **ten**) :
   (1) Olericulture (2) Bolting
   (3) Parthenocarpic fruit (4) Monohybrid
   (5) Genome (6) Pistillate line
   (7) Anthesis (8) Genetic purity
   (9) Kilo Calorie (10) Devernalisation
   (11) Ascent of Sap (12) Enzyme.

   (B) Define heterosis. Discuss its application and achievement in crop improvement. 45

2. (A) Differentiate between the following (any **five**) :
   (1) Parasite and Predator
   (2) Determinate and Indeterminate tomato
   (3) Hybrid tea rose and Floribunda rose
   (4) Euploidy and Aneuploidy
   (5) Qualitative and Quantitative Traits
   (6) 'A' line and 'R' line
   (7) Short day plant and Long day plant
   (8) Passive and active absorption of water.

   (B) What are major factors contributing to low production of fruits in India ? What measures are necessary to increase their production and productivity ? 60

3. (A) Explain the following (any **five**) :
   (1) Advantages of Biological control
   (2) Essential components of garden
   (3) Uses of flowers
   (4) Factors affecting the growth of house plants

   (5) Types of mutagenic agents with three examples of each type.
   (6) Principles of orchard planning.

   (B) Describe the procedure of pedigree method of crop breeding with its merits and demerits. 45

4. (A) Justify the following statements giving scientific reasons (any **five**) :
   (1) Clipping the tips of rice seedlings is advisable for over aged seedlings at the time of transplanting.
   (2) Cytoplasmic male sterile line is used in vegetatively propagated crops.
   (3) Isolation distance should be maintained strictly for seed production programme.
   (4) Selfing in necessary for seed production of Inbred lines.
   (5) Wild relatives of crop plants should be maintained in germplasm.
   (6) Knowledge of floral biology is essential for plant breeder.
   (7) Selection is not fruitful within pure line.
   (8) Selection starts from F_2 onwards.

   (B) Describe major storage pests of cereals and pulses. Also discuss their management strategies to avoid the storage losses. 60

5. (A) Explain the Following terms (any **ten**) :
   (1) Light trap (2) Temperate fruit
   (3) Flat bed (4) Hedge
   (5) Climber (6) Hybrid
   (7) Back cross (8) Sex linked trait
   (9) Epistasis (10) Foundation Seed
   (11) Pure line (12) Senescence.