

6(M)

UG-III/Sericulture-V/(M)/21

2021

SERICULTURE

[MAJOR]

Paper : V

Full Marks : 100

Time : 4 Hours

The figures in the right hand margin indicate marks.

Candidates are required to give their answers in their own words as far as practicable.

Write the answers to Questions of each Group in separate answer script.

GROUP-A

Genetics and Breeding of Mulberry

(Marks : 50)

1. Answer any **two** of the following questions:

1×2=2

- What do you understand by ploidy?
- What is foundation seed?
- What do you mean by Germplasm?
- What is emasculation?

2. Answer any **five** of the following questions:

2×5=10

- Define the terms mutation and mutagen.
- What is tissue culture?
- What is Test cross and Back cross?
- Define the term Breed, race and strain.
- What is clonal selection? Indicate the importance of clonal selection in mulberry propagation.
- Write the number of chromosomes in the mulberry and silkworm (*Bombyx mori* L.).
- Define preservation and conservation in terms of genetic resource management.
- Indicate the advantages of heterosis.

3. Answer any **three** of the following questions:

6×3=18

- What is stress resistance breeding? Write note on importance of stress resistance breeding in mulberry development.
- What do you mean by sex determination in silkworm (*Bombyx mori* L) breeding? Write the sex-limited traits and their significance in sericulture.

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- c) Name the parameters associated with growth, yield and quality in mulberry evaluation.
- d) What is voltinism? Write the advantages of voltinism on development of region-specific silkworm (*Bombyx mori* L.) breeds.
- e) Write a brief note on importance of auto-sexing breeds in sericulture industry.
4. Answer any **two** questions : $10 \times 2 = 20$
- a) Give a brief account on mulberry germplasm conservation, its significance and methods.
- b) Write a note on development of autosexing silkworm breeds and its significance in sericulture development.
- c) Describe the procedures of hybridization in disease resistance mulberry variety development.
- d) Discuss on importance of biotechnology in sericulture with special reference to silkworm improvement.

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[Turn over]

GROUP-B

Silkworm Seed Technology

(Marks : 50)

5. Answer any **two** of the following questions:
 $1 \times 2 = 2$
- a) Define incubation.
- b) Differentiate between diapause eggs and non-diapause eggs.
- c) Expand the term BSF.
- d) Mention the duration of oviposition of Silk moth.
6. Answer any **five** of the following questions:
 $2 \times 5 = 10$
- a) Define acid treatment.
- b) What do you mean by aestivation period related to cold storage?
- c) Write a short note on coupling of silk moth.
- d) What do you mean by intermediate temperature?
- e) Write a note on transportation of seed cocoon.

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- f) Mention Shape, Size and Colour of Silkworm egg.
- g) What do you mean by reproductive seed and industrial seed?

7. Answer any **three** of the following questions:

6×3=18

- a) Write a note on preservation technique of multivoltine eggs.
- b) Describe the different procedures of mother moth examination.
- c) Discuss the protective measures of seed production.
- d) Write a note on short term chilling and long term chilling.
- e) Write what you know about disinfection and hygiene in seed production unit.

8. Answer any **two** of the following questions:

10×2=20

- a) Define embryology. Add a note on different stages of development of Silkworm egg.
- b) i) Discuss the basis of selection of seed zone area.

ii) Mention importance and problems of P₁ rearing in West Bengal.

iii) Discuss different types of SSPC, its organization & function. 3+3+4=10

c) Describe the role of temperature, humidity, light and air on cocoon preservation.

d) Write a note on hot acid treatment and cold acid treatment with advantages and disadvantages.
