

2019

Major

2nd Semester Examination

AGRO SERVICE

Paper—C3T

Full Marks : 60

Time : 3 Hours

*The figures in the margin indicate full marks.
Candidates are required to give their answers
in their own words as far as practicable.*

1. Answer the following in brief (any ten) :

10×2=20

- (a) What are the suitable conditions for germination ?
- (b) Write the function of tegmen and testa in seed.
- (c) What do you mean by epicarp, mesocarp and endocarp ?
- (d) Defective seed.
- (e) Qualities of good seed.
- (f) What are the basic objectives of seed science ?

[Turn Over]

- (g) What is aril ? Give an example where aril is found.
- (h) What is embryo ? What is its source of food?
- (i) Polyembryony in seed science.
- (j) Plant propagules other than seed.
- (k) How can you differentiate between bulbil and corm ?
- (l) Factors affecting dormancy of seeds.
- (m) Seed priming.
- (n) Seed hair and seed awn.
- (o) Radicle and plumule.
- (p) Corm and Bulb.

2. Differentiate between the following (any *four*) :

4×5=20

- (i) Hilum and micropyle.
- (ii) Hypogeal and epigeal germination.
- (iii) Fruit and seed.

- (iv) Monocotyledonous and dicotyledonous seed.
- (v) Endosperm and seed coat.
- (vi) Nucleus seed and foundation seed.
- (vii) Seed health and seed vigour
- (viii) Induced and inherent dormancy of seed.

3. Answer any *two* from following three questions :

$$2 \times 10 = 20$$

- (a) What is seed morphology ? Write the major morphological parts of a dicotyledonous seed. Briefly describe how seed is developed after fertilization in general. Classify seeds with main features of each class of seed in succinct.

$$1 + 1 \frac{1}{2} + 3 + 4 \frac{1}{2}$$

- (b) What do you mean by seed dormancy ? Enlist different types of seed dormancy. Write a vivid note on importance of seed dormancy in agriculture. Discuss briefly how the dormancy of seed can be broken for increasing the efficiency of seed in field. Mention two drawbacks of seed dormancy.

$$1 + 1 \frac{1}{2} + 2 \frac{1}{2} + 4 + 1$$

[Turn Over]

- (c) Define seed. How does it differ from grain ? Differentiate between components of seed and appendages of seeds. Briefly describe three components and two appendages of seed with suitable diagrams.

$$1 + 1\frac{1}{2} + 2\frac{1}{2} + 5$$

2019

Major

2nd Semester Examination

AGRO SERVICE

Paper—C4T

Full Marks : 60

Time : 3 Hours

*The figures in the margin indicate full marks.
Candidates are required to give their answers
in their own words as far as practicable.*

1. Answer the following in brief (any ten) : 10×2=20
- (a) Budding vs Grafting method of vegetative propagation.
 - (b) Write the principle of cutting and layering in plant propagation.
 - (c) What do you mean by seed viability ?
 - (d) Nucleus seed vs Certified seed.
 - (e) Ripening and physiological maturity of seed ?
 - (f) “Proper plant protection measure is required for storing purity of seeds”—Justify.

[Turn Over]

- (g) What are the methods that can be followed to improve seed setting ?
- (h) Self pollination vs cross pollination.
- (i) Pure Live Seed.
- (j) Isolation Distance in quality production of crop seeds.
- (k) What is meant by seed multiplication ratio ?
- (l) What is Force air drying ?
- (m) What is ISTA ?
- (n) What is roughing of seed field ?
- (o) What is double crossing ?

2. Answer the following as short notes (any *five*) :

5×4=20

- (i) Tissue culture technique in agriculture.
- (ii) Procedure of collecting primary seed sample for testing.
- (iii) Seed Act.
- (iv) Duties and power of seed certification officer.

- (v) Maintenance of Breeder's Seed of pre-released or newly released varieties.
- (vi) Threshing, cleaning, drying and treatment of seeds before storage.
- (vii) Precautions to be followed while taking seed samples for testing.
- (viii) Basic quality characteristics of good seed.

3. Answer any *two* from following three questions :
2×10=20

- (a) Discuss briefly a suitable method of germination testing of seed. Write the major objectives of seed certification. What are the main broad phases of seed certification in general ? What is seed certification tag? Mention the key points for fixing up minimum certification standards of seed.

$$2\frac{1}{2}+1\frac{1}{2}+2\frac{1}{2}+1+2\frac{1}{2}$$

- (b) What do you mean by F1 seed ? Point out the possible ways of hybrid seed production in rice. Write a concrete note on quality hybrid rice seed production technology with special reference to—

- (i) choice of areas and growing season.

[Turn Over]

(ii) isolation distance.

(iii) plant geometry.

(iv) nursery practices for seedling raising.

(v) fertilizer application.

(vi) water management.

(vii) weeding and roguing and

(viii) harvesting. 1+1+8

- (c) What do you mean by deterioration of seeds? Name the factors of apparent and real deterioration of varieties. What are the factors that are responsible for genetic contamination in seed field due to natural crossing ? Write down the steps that should be followed to maintain genetic purity of varieties.

$$1+2\frac{1}{2}+1\frac{1}{2}+5$$
