2023

AGS 4th Semester Examination

B.Sc. Hons. in Agriculture

Principles of Seed Technology

PAPER — 406

Full Marks : 50

Time : 2 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.

Illustrate the answers wherever necessary.

Answer **all** questions.

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

(a) Define seeds and mention their role in agriculture.

(b) Write down the 'Harrington thumb rule'.

(c) Define transgenic crops citing an example.

(d) Define orthodox and recalcitrant classes of seeds.

(e) What is Seed Act and its enforcement?

(f) Define microbiotic and macrobiotic seeds in respect of their longevity status.

(g) Mention the role of high temperature and high relative humidity for seed storage.

(h) What will be the treatments for Khaira disease infected rice field?

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

(a) What are 'Foundation' and 'Certified' seeds? Write the procedure for seed certification. 2+3=5

(b) What is meant by postharvest management of crop seeds? Briefly state drying and processing of seed before storage. 2+3=5

(c) Briefly discuss the role of WTO and OECD in seed marketing. 5

(d) Write a note on the duty and power of seed inspector including offenses and penalties. 5

(e) Explain the following points of seed production of wheat : 1×5=5

(i) Isolation requirement

(ii) Time of sowing

(iii) Seed rate

(iv) Irrigation

(v) Seed yield

(f) What is seed testing for quality assessment? Mention TTC test. 4+1=5

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

(a) What is meant by deterioration of crop seeds? Write a detailed note on the various causes and control measures of seed deterioration under storage. 2+8=10

(b) How does genetic purity of crop seeds differ from physical purity? What are GM and non-GM crops? Write the methods for detection of genetically modified crops. 3+2+5=10

(c) Briefly write the general principles of seed storage. Discuss the stages and factors affecting the longevity of seeds during storage. 4+6=10

(d) Define 'grow out' test of seeds. Write a comprehensive note on varietal identification of crop seeds employing molecular and biochemical tests. Mention seed production in sugarcane. 1+5+4=10

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