

**B.Sc. (Ag.) Honours Semester-III Examination, 2016**

**Course No.: GPB-515**

**(Maintenance Breeding and Concept of Variety release and Seed Production)**

**(New Syllabus)**

Signature of Centre Superintendent

Roll No.: (in figure)_____ (in words)_____
Student Index No. _____ Regn. No. _____ of _____

**Time: Two Hours**

**Full Marks: 40**

*Questions are of value as indicated in the margin*

**Part-I**

**(Objective and Short Answer Type)**

**(Use only ball point pen)**

**Time: 20 minutes**

**Full Marks: 10**

*Note: 1. Answer in question paper itself.*

*2. Striking, rewriting or overwriting are not allowed in the objective type questions.*

**1. State True (T) or False (F) in respect the following statements (any eight):** **0.5×4=2.0**

- i. Paddy is the unmilled rice seed in the husk.
- ii. Better seeds are obtained by proper storage.
- iii. Moisture content of seed is the factor which has profound effect on its life.
- iv. The Protection of Plant Varieties and Farmers' Rights Act was established 2005.

**2. Fill up the blanks of the following :** **0.5×4=2.0**

- i. \_\_\_\_\_ tag is used for breeder seed.
- ii. In pure line wheat seed production \_\_\_\_\_ isolation distance is maintained
- iii. \_\_\_\_\_ is the objectionable weeds in mustard field.
- iv. The Indian Patent Act came into force in \_\_\_\_\_.

**3. Answer the following questions as per direction :** **2×3=6.0**

- i. Write in full of the abbreviation : PVP –

WTO -

- ii. Distinguish between cultivar and variety

- iii. Define Carry-over seeds

**M.Sc. (Ag.) Examination, 2016**  
**Semester-III**  
**Subject: Genetics and Plant Breeding**  
**Course No.: GPB-515**  
**(Maintenance Breeding and Concept of**  
**Variety Release and Seed Production)**

**Time: Three Hours**

**Full Marks: 50**

*Questions are of value or as indicated in the margin*

**Part-I**

- 1. State True (T) or False (F) in respect to the following statements (any eight):** **0.5×4=2.0**
  - i. Paddy is the unmilled rice seed in the husk.
  - ii. Better seeds are obtained by proper storage.
  - iii. Moisture content of seed is the factor which has profound effect on its life.
  - iv. The Protection of Plant Varieties and Farmers' Rights Act was established in 2005.
  
- 2. Fill up the blanks of the following :** **0.5×4=2.0**
  - i. \_\_\_\_\_ tag is used for breeder seed.
  - ii. In pure line wheat seed production \_\_\_\_\_ isolation distance is maintained
  - iii. \_\_\_\_\_ is the objectionable weeds in mustard field.
  - iv. The 'Indian Patent Act' came into force in \_\_\_\_\_.
  
- 3. Answer the following questions as per direction :** **2×3=6.0**
  - i. Write in full of the abbreviation : PVP, WTO
  - ii. Distinguish between cultivar and variety
  - iii. Define Carry-over seeds

**Part - II**

**Answer any four questions from the following:**

- 4. Define seed deterioration. What are the causes of seed deterioration? Write about prevention of seed deterioration. Briefly discuss visible expressions of seed deterioration.** **1+4+3+2=10**
  
- 5. Explain in brief 'seed to seed' cycle in seed production. Write the steps to be taken during seed production in the field. Explain the meaning of isolation in seed production. How is isolation achieved in seed plots?** **2+3+2+3=10**
  
- 6. What are the botanical types of pure seed in agriculture and horticulture? List the stages of production of improved seed. Write about truthful labeled seed. Describe in brief the methods of maintenance of breeder seed of established variety.** **2+2+2+4=10**
  
- 7. What is the aim of field inspection? When should the field inspection be made for the production of improved seed? Write isolation distance and male : female ratio in the hybrid seed production in maize, rice, sorghum and cotton. What is pollen shedder?** **2+2+4+2=10**

8. Write short notes on following : (*any four*) 2.5×4=10
- I. Roguing
  - II. Farmers' right
  - III. DUS testing
  - IV. Essentially derived variety
  - V. Certified seed production in rape & mustard
9. Differentiate between followings : (*any four*) 2.5×4=10
- I. Seed viability & Seed deterioration
  - II. Orthodox and recalcitrant seeds
  - III. Spatial isolation and temporal isolation
  - IV. Genetic purity and Physical purity
  - V. Long and Short term storage
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