

PARUL UNIVERSITY
COLLEGE OF AGRICULTURE
B.Sc. (Hons.) Agriculture Summer 2018 - 19 Examination

Semester: 4
Subject Code: 20102252
Subject Name: Principles of Seed Technology

Date: 08/04/2019
Time: 10:30am to 01:00pm
Total Marks: 50

Instructions

1. All questions are compulsory.
2. Figures to the right indicate full marks.
3. Make suitable assumptions wherever necessary.
4. Start new question on new page.

Q.1 Do as Directed.**A. Fill in the blanks. (Each of 0.5 marks)****(05)**

1. The tag colour of foundation seed is _____
2. The genetic purity percentage of breeder seed is _____
3. The mimicry weed seed in wheat seed production field _____
4. ISTA full form _____
5. The zygotic level of embryo is _____
6. NSC established in the year _____
7. Seed act enacted in the year _____
8. Seed control order came into existence was _____
9. Isolation distance for foundation seed production of groundnut is _____
10. The tag colour of certified seed is _____

B. Multiple choice type questions. (Each of 0.5 marks)**(10)**

1. The seeds needs field inspection and available for commercial cultivation to farmers is _____
 - a) Nucleus seeds
 - b) Breeder seeds
 - c) Certified seeds
 - d) Foundation seeds
2. Physical purity percentage for most of the crops is _____
 - a) 98%
 - b) 99%
 - c) 94%
 - d) 90%
3. The tag colour of breeder seed is _____
 - a) Blue colour
 - b) Golden yellow colour
 - c) White colour
 - d) Green colour
4. National Seed Corporation established in _____
 - a) 1876
 - b) 1963
 - c) 1987
 - d) 1973
5. The zygotic level of microspore is _____
 - a) n
 - b) 2n
 - c) 3n
 - d) 4n
6. The seed coat originated from _____
 - a) Integument
 - b) Endosperm
 - c) Ovule
 - d) Ovary
7. The genetic purity of foundation seed is _____
 - a) 99%
 - b) 99.5%
 - c) 100%
 - d) 90%
8. For the production of microspores and megaspores _____ type of cell division takes place.
 - a) Meiosis
 - b) Mitosis
 - c) Both
 - d) None
9. The class of seeds mainly produced by private seeds organizations are called _____
 - a) Certified seeds
 - b) Nucleus seeds
 - c) Truthfully labelled seeds
 - d) Breeder seeds
10. Isolation distance for certified seed production of bajra hybrid seed is _____
 - a) 100m
 - b) 200m
 - c) 1000m
 - d) 400m
11. Main objective of isolation distance is _____
 - a) Genetic purity
 - b) Avoid contamination
 - c) To produce true to type seeds
 - d) All of the above

12. Isolation distance for certified seeds production of paddy _____
 a) 10m
 b) 5m
 c) 3m
 d) 4m
13. The number of nucleus present in the embryo sac is _____
 a) 8
 b) 7
 c) 9
 d) 6
14. The type of cell division takes place for the production of gametes in the plants is _____
 a) Meiosis
 b) Mitosis
 c) Both
 d) None
15. Plumule of embryo give rise to _____
 a) Shoot system
 b) Root system
 c) Seeds
 d) Fruits
16. Radical of embryo give rise to _____
 a) Shoot system
 b) Root system
 c) Seeds
 d) Fruits
17. Anther dehiscence and stigma receptivity takes place at different time is called as _____
 a) Dichogamy
 b) Dicliny
 c) Protandry
 d) Protogyny
18. Tag colour of truthfully labelled seeds is _____
 a) Opal green
 b) Blue
 c) Orange
 d) None
19. Headquarters of ISTA at _____
 a) Zurich
 b) New Delhi
 c) Rome
 d) Italy
20. Sudden heritable change in an organism is called as _____
 a) Pleiotropy
 b) Expressivity
 c) Mutation
 d) Variation

Q.2 Do as Directed.

A. Define the following. (Any five)

(05)

1. Seed technology
2. Rouging
3. Off-types
4. Genetic purity
5. Germination
6. Seed vigour
7. Seed

B. Answer the following. (Any Five)

(05)

1. Physical purity
2. Isolation distance
3. Sporogenesis
4. Mega-gametogenesis
5. Herkogamy
6. Often cross pollination
7. Seed certification

Q.3 Write short notes. (Any five)

(10)

1. Explain the scope and goals of seeds technology?
2. Differentiate between seed vs grains?
3. Draw the structure of seed and label its parts?
4. Differentiate between seed production and grain production?
5. Explain the basic principles of seed certification agency?
6. Write down the objective of maintaining isolation distance for seed production?

Q.4 Attempt any Three/Long Questions/Example

(15)

1. Explain the different classes of seeds with its tag colour and write down its both genetic and physical purity percentage?
2. Explain the seed certification steps?
3. Write down the 25 sections of seed act 1966?
4. Explain the process of mega-sporogenesis and mega-gametogenesis with neat labelled diagram?