

KERALA AGRICULTURAL UNIVERSITY
B.Sc. (Ag) 2004 Admission IV Semester Final Examination,
December 2006

2004-04

Pbgn 2203
Breeding of crops (2+1)

Max. Marks: 60
Time: 2 ½ hours

Part - I

I Fill up the blanks

20 x 0.5 = 10

1. Clonal selection is followed in _____ crops.
2. Mutation occurs in nature is called _____
3. Central Plantation Crops Research Institute is located at _____
4. Gametophytic incompatibility has been reported in _____
5. _____ is the repeated crossing of F₁ and resulting hybrids with one of the parents
6. When two parents are crossed to produce a hybrid is known as _____
7. Removal of male parts from a flower is known as _____
8. Physical or chemical agents which cause mutation are known as _____
9. The treatment of organism or plants with radiation is called _____
10. _____ is a man made cereal developed by crossing wheat with rye

Chose the correct answer

11. Sugar cane inflorescence is called.
a) Arrow (b) Raceme (c) Tassel (d) Panicle
12. Colchicine is a chemical used to induce
a) Mutation (b) Polyploids (c) Somaclonal variation (d) Invitro mutation
13. Polyploids generally have
a) Gigas characters (b) Determinate characters (c) Indeterminate character
(d) Stunted or rudimentary characters.
14. Oryza sativa has the 2n chromosome number.
a) 24 (b) 48 (c) 24 and 48 (d) 34.
15. Reciprocal recurrent selection is used to improve simultaneously.
(a) Two populations (b) one population (c) Three populations
(d) Many populations.
16. Tift 23 A cytoplasm of Bajra is
a) Resistant to downy mildew (b) Tolerant to downy mildew
(c) Susceptible to downy mildew (d) Immune to downy mildew

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17. Kabir is a male sterile source of
 a) Sorghum (b) Maize (c) Bajra (d) Rice
18. Sorghum halepense is a
 a) Hybrid sorghum (b) Wild diploid sorghum (c) Wild tetra ploid sorghum
 (d) Wild diploid sorghum
19. Hybrid seed production involving A,B, and R line is known as.
 a) Single line breeding (b) Two line breeding (c) Three line breeding
 (d) Three way cross breeding
20. Clonal selection is mostly used in
 a) Perennial crops (b) Annual crops (c) Cross pollinated crops
 (d) Vegetatively propagated crops.

Part - II

Write short answers

14 x 1 = 14

1. Inbreeding depression
2. Multiline
3. Allopolyploid
4. Gene erosion
5. Heterosis
6. Acclimatization
7. Primary centre of origin
8. Incompatibility
9. Composite variety
10. Nobilisation
11. Mass selection
12. Cleistogamous flower
13. Somatic hybridization
14. Triploid

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Date

PART - III

Answer any eight of the following questions

8 x 2 = 16

1. Differentiate the qualitative characters and quantitative characters.
2. Differentiate natural selection and artificial selection.
3. How synthetics are differ from composites?
4. Single seed descent method Vs Bulk method of selection
5. Define distant hybridization.
6. Ideotype concept in rice.
7. Polycross
8. Variety release committee
9. Detassel
10. Back cross breeding

PART - IV

Answer any five of the following questions

5 x 4 = 20

1. Explain the possibilities of invitro techniques in crop improvement.
2. Explain the objectives and methods of breeding followed in sugarcane improvement.
3. Explain the steps followed for releasing a variety Write the constitution of State Variety Release Committee.
4. Explain the various breeding methods followed in tapioca for crop improvement.
5. What is back crossing? How it is used to develop a resistant variety.
6. Describe the steps involved in hybrid seed production in rice.