

www.wbcsmadeeasy.in

2019

MSC(O)AG-II/19

AGRICULTURE

PAPER-II

Time Allowed — 3 Hours

Full Marks — 200

If the questions attempted are in excess of the prescribed number, only the questions attempted first up to the prescribed number shall be valued and the remaining ones ignored.

The figures in the margin indicate marks for each question.

Answer **any five** questions.

1. (a) Why meiotic cell division is required? Briefly state about different phases of meiotic cell division.
- (b) Clearly state about molecular basis of crossing over.
- (c) A male person is having one pair of homologous chromosomes — A_1A_2 along with one additional chromosome 'B' without pairing. What will be chromosomal constitution of each of the four gametes produced after one meiotic division? (5+20)+5+10=40
2. (a) Classify different types of polyploids with its chromosomal formulae and genetical significance.
- (b) Schematically represent the relation between flower structures of plants and its breeding behaviour.
- (c) What is backcross breeding? State its genetic basis. Clearly discuss on the procedures followed in backcross breeding. 10+10+20=40
3. (a) How male sterility differs from self incompatibility? Classify different types of male sterility with its practical utility.
- (b) Discuss about 'Gametophytic system' of self incompatibility. How it could be differentiated from 'Sporophytic system'?
- (c) Briefly enumerate different types of hybrid seed production in maize. (3+12)+(10+5)+10=40
4. (a) What is meant by quality seed? Discuss about probable reasons for quality deterioration during seed production system with its prevention.
- (b) Clearly describe the breeder seed production procedure of self pollinated crops with special reference to a particular crop.

MSC(O)AG-II/19

(2)

- (c) How seed production in cross-pollinated crops differs from that of vegetatively propagated crops?
- (d) Outline the most important aspects of hybrid rice seed production. $(2+10)+12+6+10=40$
5. (a) Discuss stepwise about the propagation procedure followed for different citrus species.
 (b) Compare the seed production technology of cabbage and cauliflower.
 (c) Write in brief about medicinal uses, cultivation and propagation methods for 'Ashwagandha'.
 $15+15+10=40$
6. (a) What are the causes of insect pests outbreaks in agro ecosystem? What is pesticide residue?
 (b) Briefly discuss about the major criteria for implementing 'IPM' technology in crop cultivation.
 (c) What are the major insect pests of banana crops? Mention nature and symptoms of damage caused by them and specify rational management practices against them. $15+10+15=40$
7. (a) Briefly discuss the principles of disease management in crops.
 (b) Describe in detail on symptoms, epidemiology and management of major diseases of cruciferous vegetables.
 (c) Write a short account on insect transmitted viral diseases of some horticultural crops.
 $15+15+10=40$
8. (a) Define protected cultivation of horticultural crops and mention its advantages and limitations.
 (b) Narrate briefly about the protected cultivation practices of any cut flower.
 (c) Discuss about national programmes and initiatives related to nutrition and food security in India.
 $15+15+10=40$

For guidance of WBCS Prelims , Main Exam and Interview by WBCS Gr A Officers/ Toppers, WBCS Prelims and Main Mock Test (Classroom & Online), Optional Subjects, Studymaterials, Correspondence Course etc.Call WBCSMadeEasy™ at 9674493673 or mail us at mailus@wbcsmadeeasy.in