

Class 11 Agriculture (Code 815) – Model Question Paper 2026–27

Answer Key & Marking Scheme

SECTION A – OBJECTIVE TYPE QUESTIONS (15 Marks)

Multiple Choice Questions

Q. No.	Answer
1	(b) Barometer
2	(c) Crossing over
3	(a) Pure line selection
4	(c) Carbohydrates
5	(a) Rhizobium
6	(c) Feed containing all nutrients in proper proportion

Fill in the Blanks

Q. No.	Answer
7	Condensation
8	Deoxyribonucleic Acid
9	Poultry

One Word Answer

Q. No.	Answer
10	Gene
11	Leeuwenhoek
12	Pollination

Assertion–Reason

Q. No.	Answer
13	Both A and R are true and R is the correct explanation of A
14	A is true but R is false
15	Both A and R are true and R is the correct explanation of A

Total = 15 Marks

SECTION B – VERY SHORT ANSWER QUESTIONS (2 Marks Each)

Q16. Define lapse rate.

Answer: The rate at which atmospheric temperature decreases with increase in altitude is called lapse rate.

OR

What is temperature inversion?

Temperature inversion is a condition in which temperature increases with height instead of decreasing.

Q17. State any two Mendelian laws of inheritance.

Answer:

1. Law of Segregation.
2. Law of Independent Assortment.

OR

Differentiate between mitosis and meiosis.

Mitosis	Meiosis
One division	Two divisions
Produces two daughter cells	Produces four daughter cells

Q18. What is apomixis?

Answer: Apomixis is seed formation without fertilization.

Advantage: Produces genetically identical plants.

OR

What is micropropagation?

Micropropagation is rapid multiplication of plants through tissue culture techniques.

Q19. Define enzyme.

Answer: Enzymes are biological catalysts that accelerate biochemical reactions.

Function: Increase rate of metabolic reactions.

OR

What are amino acids?

Amino acids are the basic structural units of proteins.

Q20. What is biofertilizer?

Answer: Biofertilizers are living microorganisms that enhance soil fertility.

Example: Rhizobium.

OR

Define mycorrhiza.

Mycorrhiza is a symbiotic association between fungi and plant roots.

Q21. What is artificial insemination?

Answer: Artificial insemination is the introduction of semen into the reproductive tract of a female animal by artificial methods.

OR

Define balanced ration.

Balanced ration is a feed containing all nutrients in proper proportion to meet the animal's requirements.

SECTION C – SHORT ANSWER QUESTIONS (3 Marks Each)

Q22. Explain the importance of monsoon in Indian agriculture.

Answer:

1. Supplies water for crop growth.
2. Recharges groundwater resources.
3. Influences cropping pattern and productivity.

Q23. Describe mutation and its significance in crop improvement.

Answer: Mutation is a sudden heritable change in genetic material.

Importance:

1. Creates genetic variability.
2. Develops disease-resistant varieties.
3. Produces high-yielding crop varieties.

Q24. Explain any three applications of recombinant DNA technology.

Answer:

1. Development of transgenic crops.
2. Production of disease-resistant varieties.
3. Improvement of crop yield and quality.

OR

Explain somaclonal variation and its importance.

Answer:

Somaclonal variation refers to genetic variation among plants regenerated from tissue culture.

Importance:

1. Source of useful variability.
2. Disease resistance.
3. Stress tolerance improvement.

Q25. Discuss the classification of carbohydrates with examples.

Answer:

1. Monosaccharides – Glucose.
 2. Disaccharides – Sucrose.
 3. Polysaccharides – Starch.
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Q26. Explain the role of microorganisms in the nitrogen cycle.

Answer:

1. Convert atmospheric nitrogen into usable forms.
2. Decompose organic matter.
3. Improve soil fertility.

Marking:

- Any three points = 1 Mark each

OR

Differentiate between symbiotic and asymbiotic nitrogen fixation.

Symbiotic	Asymbiotic
In association with plants	Free living
Example: Rhizobium	Example: Azotobacter

Q27. Describe the care and management of newly born calves.

Answer:

1. Feeding colostrum immediately after birth.
 2. Proper housing and hygiene.
 3. Vaccination and disease prevention.
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SECTION D – ESSAY TYPE QUESTIONS (5 Marks Each)

Q28. Discuss the causes of climate change and its impact on agriculture.

Answer:

Causes:

1. Greenhouse gas emissions.
2. Deforestation.
3. Industrialization.
4. Burning of fossil fuels.
5. Urbanization.

Impact on Agriculture:

1. Reduced crop yield.
2. Increased pest incidence.
3. Drought and floods.
4. Change in cropping patterns.
5. Soil degradation.

OR

Explain different types of precipitation and their agricultural importance.

Answer: Types:

1. Rain
2. Snow
3. Sleet
4. Hail

Importance:

- Provides water for crops.
- Maintains soil moisture.
- Recharges water resources.

Q29. Describe various methods of plant breeding used in self-pollinated and cross-pollinated crops.

Answer: Self-pollinated crops:

1. Mass selection.
2. Pure line selection.

Cross-pollinated crops:

1. Recurrent selection.
2. Hybridization.

3. Progeny testing.

OR

Explain the concept, scope and applications of plant biotechnology.

Marking Scheme:

- Concept = 1 Mark
- Scope = 2 Marks
- Applications = 2 Marks

Key Points:

- Tissue culture
- Genetic engineering
- Disease resistance
- Crop improvement
- Micropropagation

Q30. Discuss the importance of livestock in Indian economy and explain principles of animal nutrition and feeding practices.

Answer:

Importance:

1. Source of milk, meat and eggs.
2. Employment generation.
3. Contribution to GDP.
4. Source of manure.

Animal Nutrition:

1. Balanced ration.
2. Adequate water supply.
3. Mineral supplementation.
4. Proper feeding schedule.

OR

Describe important diseases of livestock and poultry, their symptoms and management.

Expected Diseases:

- Foot and Mouth Disease (FMD)
- Mastitis
- Ranikhet Disease
- Coccidiosis