

**1(CCE-M)6**  
**AGRICULTURE-I**  
**[01]**

*Time Allowed :3 Hours*

*Maximum Marks:300*

**INSTRUCTIONS**

- i) Answers must be written in English.*
- ii) The number of marks carried by each question is indicated at the end of the question.*
- iii) The answer to each question or part thereof should begin on a fresh page.*
- iv) Your answer should be precise and coherent.*
- v) The part/parts of the same question must be answered together and should not be interposed between answers to other questions.*
- vi) Candidates should attempt question number 1 which is compulsory and any **Four** out of the remaining questions.*
- vii) If you encounter any typographical error, please read it as it appears in the text book.*
- viii) Candidates are in their own interest advised to go through the General Instructions on the back side of the title page of the Answer Script for strict adherence.*
- ix) No Continuation sheets shall be provided to any candidate under any circumstances.*
- x) Candidates shall a put cross (X) on blank pages of answer Script.*
- xi) No blank page be left in between answer to various questions.*
- xii) No programmable Calculator is allowed.*
- xiii) No stencil (with different markings) is allowed.*
- xiv) In no circumstances help of scribe will be allowed.*

**1. Write the meaning and importance of on any TEN of the following: (10×8=80)**

- i) Climate-smart agriculture*
- ii) Farm efficiency*
- iii) Greenhouse gas emission from agriculture*
- iv) Persistent Organic Pollutants in agriculture*
- v) Convention on Biological Diversity and Agrobiodiversity management*
- vi) System of Crop Intensification(SCI)*
- vii) Integrated weed management*

- viii) Crop water use efficiency
  - ix) Mechanization Indicator
  - x) Risk management in agriculture marketing
  - xi) Rain water harvesting
  - xii) Agricultural Resources Information System(AgRIS)
2. a) Explain the difference between soil fertility and soil productivity? Explain soil fertility indicators, causes of soil fertility deterioration, and measures which can improve soil fertility? (25)
  - b) Explain the criteria of delineating agro-ecological and agro-climatic zones. (15)
  - c) Define Integrated Nutrient Management(INM) and its benefits. (15)
  3. a) Define agroforestry systems and discuss the scope, significance and limitations for food security and environmental conservation. (25)
  - b) Explain salinization causes of soil and methods for reclamation of salt-affected lands. (15)
  - c) Discuss cultural practices of *Avena sativa*(Oats) or direct-seeded rice (15)
  4. a) How does dryland agriculture differ from rainfed agriculture? Describe in brief technologies and management practices recommended for rainfed agriculture area development in National Mission for Sustainable Agriculture. What are the constraints of dryland agriculture areas? (30)
  - b) Write short note (150 words) on any FIVE of the following: (5×5=25)
    - i) Evapotranspiration
    - ii) Drip irrigation
    - iii) Conservation agriculture
    - iv) Crop residue management
    - v) Benefits of agrobiodiversity conservation
    - vi) National Food security Mission
  5. a) Explain the role of environment in determining distribution pattern and productivity of cropping systems. How does climate change affect the rice-wheat cropping system? What are the adaptation and mitigation strategies recommended to reduce the impact of climate change on rice-wheat cropping system? (30)
  - b) Explain status of transgenic crops in India and risks and benefits associated with them. (25)
  6. a) Differentiate between any FIVE of the following: (5×8=40)
    - i) Traditional farm machinery and Modern farm machinery
    - ii) Blue carbon and Brown carbon

- iii) Slow release fertilizers and Fortified fertilizers
  - iv) Participatory Rural Appraisal(PRA)and Rapid Rural Appraisal(RRA)
  - v) Intercropping and Sequential cropping
  - vi) EI Nino and La Nina
  - vii) Spot market and Forward market
- b) Describe the adverse impacts of non-judicious use of fertilizers in agriculture and role of soil health card scheme in curtailing it. (15)
7. a) Explain extension education objectives and principles.which methods are used by extension workers for the transfer of technology from lab to farm?Discuss in brief role of extension in agriculture development in India. (30)
- b) Explain water potential concept and its different components.Explain processes influencing water potential. (25)
8. Explain any **FIVE** of the following: (5×11=55)
- i) National Agriculture Market(e-NAM)
  - ii) Pradhanmantri Fasal Bima Yojana
  - iii) Doubling Farmers Income Strategy
  - iv) Futuristic farm equipments
  - v) Watershed management
  - vi) Protection of Plants Varieties and Farmer's Rights Act
  - vii) Weather Advisory Services and their impact on agriculture
  - viii) Paramparagat Krishi Vikas Yojana.
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