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Question Paper Code : 51016

B.E./B.Tech. DEGREE EXAMINATIONS, APRIL/MAY 2023.

Fifth/Seventh Semester

Civil Engineering

OAI 551 – ENVIRONMENT AND AGRICULTURE

(Common to: Aeronautical Engineering/Aerospace Engineering/Automobile Engineering/Environmental Engineering/Geoinformatics Engineering/Industrial Engineering/ Industrial Engineering and Management/ Manufacturing Engineering/Marine Engineering/Material Science and Engineering/Mechanical Engineering/ Mechanical Engineering (Sandwich)/Mechanical and Automation Engineering/Mechatronics Engineering/Production Engineering/Robotics and Automation/Bio Technology/Food Technology/Pharmaceutical Technology)

(Regulations 2017)

Time : Three hours

Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. What is meant by SAR?
2. List any four causes of landscape change.
3. How can irrigation affect erosion?
4. Distinguish between polyculture and monoculture.
5. How is grey water footprint determined?
6. What is meant by desertification?
7. What are the principles of ecological agriculture?
8. What is meant by GM crops?
9. Define alternate culture system.
10. Compare vertical farming with traditional farming.

PART B — (5 × 13 = 65 marks)

11. (a) Explain the types of land use in India.
Or
(b) Explain the impacts of globalization on agriculture.
12. (a) Explain the mechanized agriculture with their advantages and limitations. Discuss any two systems available.
Or
(b) Explain the agriculture drainage and the downstream impact.
13. (a) Explain the effects of global warming and climate change on the ecosystems.
Or
(b) Explain draught and characterization of water shortage.
14. (a) What are the agriculture biodiversity? Explain about their techniques, advantages and concerns.
Or
(b) What are the biotechnology uses in agriculture? Explain the use of biotechnology in agriculture and its benefits and risks.
15. (a) Explain about challenges, models and goals in environmental governance issues.
Or
(b) Write in detail about the techniques adopted for sustainable farming.

PART C — (1 × 15 = 15 marks)

16. (a) Enumerate and explain the current challenges pertaining to sustainable agriculture production in India.
Or
(b) How much water is required for the proper growth of important crops? How to estimate the water demand of crops? What are the different seasons of crop growth?