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Question Paper Code : 40970

B.E./B.Tech. DEGREE EXAMINATIONS, NOVEMBER/DECEMBER 2021.

Fifth/Seventh Semester

Aeronautical Engineering

OAI 551 – ENVIRONMENT AND AGRICULTURE

(Common to : Aerospace Engineering, Automobile Engineering, Civil 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, Biotechnology, Food Technology, Pharmaceutical Technology)

(Regulations 2017)

Time : Three hours

Maximum : 100 marks

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Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. List the direct and indirect factors causing ecosystem changes.
2. Define the terms scenery and setting with respect to landscape.
3. Define any two types of drainage systems employed in agriculture.
4. Distinguish between the poly culture and monoculture.
5. Recall the formula to determine grey water foot print.
6. Define secondary succession. List the stages of secondary succession.
7. What are the effects of habitat fragmentation by forestry and agriculture?
8. What are the farm practices benefit wildlife?
9. List any four objectives of international institute of sustainable development on global governance.
10. Define hydroponics. List any two advantages of it.

PART B — (5 × 13 = 65 marks)

11. (a) (i) Explain any six impacts of agriculture on water quality. (7)
(ii) Define water pollution and explain any four types of water pollution. (6)

Or

- (b) (i) Explain any five positive and negative impacts of globalization. (7)
(ii) What is Agro ecosystem analysis (AESA)? Discuss the four different methods adopted in AESA. (6)

12. (a) Define soil erosion. Explain any five physical processes responsible for erosion. And explain any five methods to prevent soil erosion and also list the factors affecting soil erosion. (13)

Or

- (b) What is meant by mechanized agriculture? List any three applications and benefits of mechanization of agriculture. Explain any seven advantages of mechanized agriculture. (13)

13. (a) What do you understand by the term global warming? What are the effects global warming? Explain any three effects of global warming. (13)

Or

- (b) Define desertification. Explain any six causes and effects of desertification. Suggest any three solutions to minimize desertification. (13)

14. (a) From your perspective provide the different strategies an individual can follow to overcome the crisis of pollination taking place among plants?(13)

Or

- (b) Explain the seven different stages ecological farming principle. (13)

15. (a) What is meant by alternate culture systems? Explain the principle, advantages and limitations of mega farms and vertical farms. (13)

Or

- (b) Write any five needs for the agricultural policies and environmental quality. Discuss on the goals and principles to integrate agricultural and environmental policies. (13)

PART C — (1 × 15 = 15 marks)

16. (a) Explain the main features of sustainable agriculture in India. What are the basic elements, major objectives basic elements and steps to implement sustainable agriculture? Explain the Problems faced by Indian agriculture to adopt sustainable agriculture.

Or

- (b) What are the environmental benefits of GM crops? Write a note on the current scenario based on the implementation of genetically modified crops. How are genetically modified crops assessed for environmental safety? Explain the effect of GMOs and the environment with respect to Indian food industry.
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