

Bachelor of Science (B.Sc. Part-III) Fifth Semester  
**B.Sc. 3520 - Environmental Science Paper-II**  
**(Environment and Innovations)**

P. Pages : 2

Time : Three Hours



**GUG/W/18/1310**

Max. Marks : 50

- Notes : 1. All questions are compulsory and carry equal marks.  
2. Illustrate the answers with suitable diagrams and examples.

1. Explain goals of environmental innovations. Discuss waves of innovations and development of eco-innovations. **10**

**OR**

Discuss free public transport and floating houses in rising sea as physical innovations.

2. Discuss method of manufacturing of magnetized fly ash for agriculture. Discuss its contribution in crop yield. **10**

**OR**

Discuss how rain water harvesting in Mizoram and water source management in Bhandara has been done?

3. a) Explain barriers and drivers of eco-innovations. **2½**  
b) Explain how reducing cost and performance of solar cells is done using physical innovations. **2½**  
c) Write about Makku Van Panchayat in Uttarakhand. **2½**  
d) Explain how electricity from rice husk and algae is produced. **2½**

**OR**

- e) Explain innovation system and innovation process. **2½**  
f) How extraction of water is done from atmosphere in hilly terrain? **2½**  
g) Write about natural farming. **2½**  
g) Discuss contribution of Vigyan ashram for innovation. **2½**
4. a) Explain how innovations in products and systems have been carried out? **2½**  
b) Discuss green urban planning in Brazil. **2½**  
c) Write about Beej Bachao Andolan. **2½**  
d) How energy extraction from small hydro plants in Himachal Pradesh has been carried out? **2½**

**OR**

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| e) | Explain significance of eco-innovations.                     | 2½ |
| f) | Discuss need of ITC for sustainable growth.                  | 2½ |
| g) | Explain the method of traditional biodiversity conservation. | 2½ |
| h) | Briefly explain the patent procedure in India.               | 2½ |

**5. Answer in 2-3 lines **any ten**.**

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|----|--|---|
| a) | Write benefits of eco-innovations.                               | 1 |
| b) | Define environmental innovations.                                | 1 |
| c) | What is eco-industry?  | 1 |
| d) | What are eco-surfactants?  | 1 |
| e) | Write about greener mobile phones.                               | 1 |
| f) | What is biodegradable ink?                                       | 1 |
| g) | What is dry land farming?  | 1 |
| h) | How natural resource conservation in Mendha Lekha has been done? | 1 |
| i) | Give the ecological principle for pest management.               | 1 |
| j) | What is TERI?  | 1 |
| k) | Name the place where Bare foot college is located?               | 1 |
| l) | Where centre of science for village is located?                  | 1 |

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