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**4GANDHI INSTITUTE OF ENGINEERING AND TECHNOLOGY UNIVERSITY, ODISHA, GUNUPUR
(GIET UNIVERSITY)**



Ph.D. (Second Semester-Winter) Examinations, April – 2026
AGM-601 – Climate Change and Sustainable Development
(Agronomy)

Time: 3 hrs

Maximum: 70 Marks

The figures in the right hand margin indicate marks.

Answer ANY FIVE Questions.

(14 x 5 = 70 Marks) Marks

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| 1.a. | Describe the concept climate change and bring about the relationship between development , sustainability and climate change . | 7 |
| b. | In what ways extreme weather events result from climate change ? | 7 |
| 2. a. | What is Clean Development Mechanism? Enlist its objectives . | 5 |
| b. | How Clean development mechanism operates in India? Explain in detail. | 9 |
| 3.a. | Explain the mechanism of the natural greenhouse effect and how human activities have accelerated this process to create global warming. | 7 |
| b. | Evaluate potential mitigation strategies to reduce the impact of the enhanced greenhouse effect. | 7 |
| 4. | Explain in detail about the different approaches of crop diversification . | 14 |
| 5.a. | Explain the 'Evil Quartet' of biodiversity loss. | 7 |
| b. | How does the greenhouse effect maintain Earth's average temperature, and what would happen if it were completely removed? | 7 |
| 6.a. | What do you mean by climate smart agriculture? Mention the salient features of CSA . | 4 |
| b. | Describe briefly about the climate smart practices that are significant in tackling the changing trends in climate . | 10 |
| 7. a. | Define crop diversification. What are the types of crop diversification ? | 6 |
| b. | How a suitable crop diversification is helpful in combating climate change effect ? | 8 |
| 8.a. | What is vulnerability w.r.t. climate change ? | 4 |
| b. | What are the various mitigation strategies of sustainable development ? explain in detail. | 10 |

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