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



Ph.D. (First Semester) Examinations, December – 2024
23SPPEBO1011 -ADVANCE PLANT SCIENCES
(Botany)

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. | How can we utilize non-conventional energy from biomass of higher plants? | 8 |
| b. | Write on impact and consequences of global climate change. | 6 |
| 2. | Write elaborately on economic importance of fungi. | 14 |
| 3.a. | Give an account on growth kinetics of bacteria in batch culture. | 7 |
| b. | Illustrate on impact of UV and ionizing radiations on ecosystem. | 7 |
| 4. | Give an account of phytoremediation and its challenges? | 14 |
| 5.a. | Describe details on municipal solid waste management process. | 7 |
| b. | Write details steps of drinking water purification treatments. | 7 |
| 6.a. | Write about plant as source food. | 7 |
| b. | Explain with example on production of insect resistance plants through genetic modification. | 7 |
| 7. | Give an account of causes, effect and remedy of air pollution. | 14 |
| 8.a. | Write details on molecular farming and its limitation. | 7 |
| b. | Write on types, sources and biotechnological application of heat shock proteins. | 7 |

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