

Code No: **RT41016F****R13****Set No. 1****IV B.Tech I Semester Supplementary Examinations, February/March - 2018****GREEN TECHNOLOGIES****(Open Elective)****Time: 3 hours****Max. Marks: 70***Question paper consists of Part-A and Part-B**Answer ALL sub questions from Part-A**Answer any THREE questions from Part-B***\*\*\*\*\*****PART-A (22 Marks)**

1. a) Write a short note why green technology is very important now a days? [3]
- b) List various benefits of cleaner production. [3]
- c) Discuss how you identify the opportunities to better assess cleaner production. [4]
- d) Write about environmental management hierarchy. [4]
- e) Discuss the future need of conventional energy resources. [4]
- f) Write the sustainability of geothermal energy in Indian practice. [4]

**PART-B (3x16 = 48 Marks)**

2. a) Discuss the strategies in detail how to achieve sustainable development in a country through green technologies. [8]
- b) Explain in detail the factors affecting green technologies. [8]
3. a) Write the differences between cleaner production and end-of-pipe approach. [8]
- b) Discuss various barriers of cleaner production process. Also write the processes which do not come under cleaner production. [8]
4. Write the problems, causes and possible solutions for cleaner production Financing. [16]
5. Discuss in details methods for analyzing data and effectiveness in prevention of pollution and achieving cleaner production. [16]
6. What are the major non-conventional energy resources in India? Discuss how important to utilize wind based and solar based energy with the associated principles. [16]
7. Compare and contrast the green fuels with conventional fossil fuels with reference to the following aspects:
  - a) Environmental
  - b) Economical
  - c) Social impacts[16]