

**BACHELORS OF SCIENCE**  
**4<sup>th</sup> SEMESTER**  
**SKILL ENHANCEMENT COURSE (SEC)**

**GT419S: GREEN TECHNOLOGY**

**CREDITS - THEORY-2, PRACTICAL-2**

**THEORY (2 CREDITS: 30 HOURS)**

**MAXIMUM MARKS: 30**

**MINIMUM MARKS: 12**

**Objectives/Expected Learning Outcomes:** The students will be skilled in understanding the green infrastructure and emerging green technologies for mitigating the climate change and other environmental impacts. The course will be very helpful in implementing the policies of green planning.

**UNIT I: Green planning**

**15 hours**

1. Green technology: past and present perspective
2. Green energy
3. Green infrastructure
4. Green economy and green chemistry
5. Green planning: concept of green cities

**UNIT-II: Green techniques**

**15 hours**

1. Successful green technologies: compact fluorescent lights (CFLs) and cogeneration
2. GHG reduction technology: carbon capture and storage (CCS)
3. R's of green technologies: recycle, reuse and reduce
4. Life cycle assessment (LCA)
5. Ecomark certification

**PRACTICAL (2 CREDITS- 60 HOURS)**

**MAXIMUM MARKS: 30**

**MINIMUM MARKS: 12**

1. Waste audit of an institution/organisation
2. Life cycle assessment of a product
3. Energy audit of an institution/organisation
4. Determination of ecological footprint of individuals
5. Carbon capture and storage (CCS) in buildings
6. Hydroponics in buildings



### Suggested Readings

1. Anastas, P.T. & Warner, J.C. 1998. *Green Chemistry: Theory & Practice*. Oxford University Press.
2. Arceivala, S.L. 2014. *Green Technologies: For a Better Future*. Mc-Graw Hill Publications.
3. Baker, S. 2006. *Sustainable Development*. Routledge Press.
4. Hrubovcak, J., Vasavada, U. & Aldy, J. E. 1999. *Green technologies for a more sustainable agriculture* (No. 33721). United States Department of Agriculture, Economic Research Service.
5. Thangavel, P. & Sridevi, G. 2015. *Environmental Sustainability: Role of Green Technologies*. Springer Publications.
6. Woolley, T. & Kimmins, S. 2002. *Green Building Handbook* (Volume 1 and 2). Spon Press.

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