

Reg. No.

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|

**Question Paper Code : 57420**

**B.E./B.Tech. DEGREE EXAMINATION, MAY/JUNE 2016**

**Third Semester**

**CIVIL ENGINEERING**

**GE 6351 – ENVIRONMENTAL SCIENCE AND ENGINEERING**

**(Common to Third Semester Computer Science and Engineering, Electrical and Electronics Engineering, Electronics and Instrumentation Engineering, Instrumentation and Control Engineering, Environmental Engineering, Robotics and Automation Engineering, Information Technology, Polymer Technology, Textile Chemistry, Textile Technology, Fashion Technology, Biotechnology, Plastic Technology, Pharmaceutical Technology and Petrochemical Technology)**

**(Also Common to Fourth Semester Geoinformatics Engineering and Mechanical Engineering, Chemical Engineering and Medical Electronics)**

**(Also Common to Agriculture Engineering Fifth Semester Electronics and Communication Engineering, Mechatronics Engineering, Mechanical and Automation Engineering, Automobile Engineering, Aeronautical Engineering, Production Engineering, Petroleum Engineering, Petrochemical Engineering)**

**(Also common to Sixth Semester Materials Science and Engineering)**

**(Also common to Sixth Semester Biomedical Engineering)**

**(Regulation 2013)**

**Time : Three Hours**

**Maximum : 100 Marks**

**Answer ALL questions.**

**PART – A (10 × 2 = 20 Marks)**

1. Give any two examples of physical hazard.
2. Mention two primary and secondary consumers in grassland ecosystem.
3. What is PAN ? Give its detrimental effect.

4. What are the causes of thermal pollution ?
5. Mention any two environmental effects of mining for mineral resources.
6. What are the reasons for land degradation ?
7. Explain the term sustainability briefly.
8. State any two biomedical waste handling rules.
9. Mention any two family welfare programs adopted in India.
10. What do you understand by population explosion ?

**PART - B (5 × 16 = 80 Marks)**

11. (a) (i) What is an ecosystem ? What are its components ? Explain the functions of each component with examples. (8)  
(ii) Explain the factors that give threat to biodiversity. (8)

**OR**
- (b) (i) How is biodiversity conserved in India ? (4)  
(ii) Explain oxygen and nitrogen cycle briefly with diagrams. (12)
12. (a) (i) Write an elaborate notes on chemical and photochemical reactions in the atmosphere. (10)  
(ii) What are the causes and effects of marine pollution ? (6)

**OR**
- (b) (i) What are the methods adopted for the control of air pollutants ? Explain each briefly. (8)  
(ii) How are water pollutants classified ? Give examples of each type. (8)
13. (a) (i) How is biogas produced ? What are its advantages ? (8)  
(ii) What are the effects of modern agriculture ? (8)

**OR**

(b) (i) What are renewable and non-renewable energy resources ? Why are non-renewable energy resources preferred for energy utilization now-a-days ? What are advantages and disadvantages of harnessing non-renewable energy resources ? (10)

(ii) Explain bioconversion of pollutants with examples. (6)

14. (a) (i) Discuss the recent approaches to achieve sustainable development. (12)

(ii) What is green chemistry and what are its principles ? (4)

**OR**

(b) (i) Discuss the various applications of green chemistry for achieving sustainable development. (8)

(ii) Explain salient features of Water Act. (8)

15. (a) (i) What are sparsely populated areas ? Give examples and reasons for poor population in those areas. (8)

(ii) What is HIV ? How is it caused ? What are the preventive measures suggested ? (8)

**OR**

(b) (i) Explain a note on EIA. (8)

(ii) Discuss women and child welfare programs practiced in India. What are the hurdles encountered ? (8)