

NATIONAL INSTITUTE OF TECHNOLOGY, KURUKSHETRA (136119)
DEPARTMENT OF CHEMISTRY

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Examination: **B. Tech. 1st Year 1st Semester (End Semester Exam.)**

Date & time of examination: **08.03.2021 (11:00am to 01:30 pm)**

Subject & Code: **Energy & Environmental Science; CHIR11 (Common to all branches)**

Maximum Marks: **50**

Total Time allowed: **2 Hrs 30 mins**

Note:

1. The student will use A4 size paper as answer sheets. They must write their **Roll No., Course Code, Course Name, Total number of pages used** and **signature of student** on the first page as per the specimen provided to them as Guidelines.
2. Students are required to submit the answer sheet as PDF that must be saved as **(complete roll number.pdf)**. Suppose the roll number of any student is 12012001, then PDF name must be: **12012001.pdf**

S. No.	Questions	Marks
1.	Describe following terms with suitable examples: a) Herbivores b) Carnivores c) Omnivores d) Detritivores e) Hot spots	5×2
2.	a) Deforestation poses a great environmental threat. Describe some major causes of deforestation. b) Although water is abundant on the earth, yet it is very precious. Justify.	2×5
3.	a) Explain the formation of Photochemical Smog with the help of the suitable chemical equations. b) What are greenhouse gases? How can be the emission of various greenhouse gases can be controlled?	2×5
4.	a) What is acid rain? How does it affect the economy of the country? Explain with examples. b) Discuss in detail about the principle and advantage of any one of the water conservation methods. <div style="text-align: center;">Or</div> 20 mL of a water sample for COD analysis was treated with 10 mL of acidified standard $K_2Cr_2O_7$ solution. The resulting solution consumed 6.5 mL of 0.1N Mohar's salt (FAS) solution. Under identical conditions, 10 mL of the same $K_2Cr_2O_7$ solution was diluted with 20 mL of distilled water, consumed 26.0 mL of the above FAS solution. Calculate the COD in ppm of the above water sample.	2×5
5.	a) What is Thermal Pollution? Explain its causes, effects, and control measures with suitable diagram, if any. <div style="text-align: center;">Or</div> What is photovoltaic cell? Describe with suitable diagram. Also, write its advantages and disadvantages, if any.	10