

NATIONAL INSTITUTE OF TECHNOLOGY, KURUKSHETRA

THEORY EXAMINATION

Question Paper

Month and year of examination: Dec. 2018

Programme: B.Tech. 1st Year

Subject: Energy and Environmental Science

(Common for all branches)

Number of questions to be attempted: 05

Total no. of questions: 08

Semester: 1st

Course Code: CHE 11

Maximum marks: 50

Time allowed: 03 hours

Total no. of pages used: 02

Unless stated otherwise, the Symbols have their usual meanings in context with the Subject.

The candidates, before starting to write the solutions, should please check the Question Paper for any discrepancy and also ensure that they have been delivered the Question Paper of right course no. and right subject title.

Note: All questions carry equal marks.

Q. No.	Description	Marks
I	(a) Define an ecosystem. How does it work? Explain the energy flow in an ecosystem with the help of a neat, labelled diagram.	5
	(b) Field of environment studies offers a number of career opportunities. Elaborate the statement.	5
II	(a) Biodiversity has immense value. Describe important direct and indirect values.	5
	(b) What are the conditions under which an area becomes hot spot of biodiversity? Discuss three main threats to biodiversity.	5
III	(a) Enlist the primary and secondary pollutants involved in Photochemical Smog. Explain the mechanism of its formation.	5
	(b) Human activities in recent times have contributed to rise in temperature of earth's environment. Explain the effect and its consequences.	5
IV	(a) Original Winkler method of DO determination needed modification, why? How modification is applied? Give one example with chemical reactions.	5
	(b) Define BOD. Why a five day BOD is most preferred? Give differences between BOD & COD.	5
V	(a) Describe the causes, effects and two control measures of thermal pollution.	5
	(b) Solid waste is increasingly becoming a big threat to environment. Discuss its disposal and management.	5
VI	(a) Explain the ill effects of modern agricultural practices on food resources.	5
	(b) Big dams can have both positive and negative impacts. Describe their role.	5
VII	(a) Discuss the advantages and disadvantages of conventional power plants.	5
	(b) Describe the construction and working of photovoltaic solar cell.	5

	Give advantages of solar energy		
VIII	(a) What is sustainable development? Explain some of the important measures for sustainable development.		
	(b) Discuss the relevance of environmental ethics to environmental protection.		5
	OR		
	(a) How over exploitation of forest resources can cause great damage to environment?		5
	(b) Human negligence led to one of the biggest tragedies of environment. Give reasons for the failure. Write chemical reactions of responsible gas with water and itself.		5