

Enrollment No: _____ Exam Seat No: _____

C.U.SHAH UNIVERSITY

Summer Examination-2017

Subject Name: Environmental Engineering

Subject Code: 4TE05ENE1

Branch: B.Tech(Civil)

Semester: 5

Date: 30/03/2017

Time: 02:30 To 05:30

Marks: 70

Instructions:

- (1) Use of Programmable calculator & any other electronic instrument is prohibited.
- (2) Instructions written on main answer book are strictly to be obeyed.
- (3) Draw neat diagrams and figures (if necessary) at right places.
- (4) Assume suitable data if needed.

Q-1	Attempt the following questions:	(14)
	a) What are pathogens?	01
	b) What is potable water?	01
	c) What is air pollutant?	01
	d) Define BOD.	01
	e) What is eutrophication?	01
	f) List the methods of disposal of hazardous waste.	01
	g) What is pyrolysis?	01
	h) Define the term: Refuse.	01
	i) Define the term: Putrefaction.	01
	j) Define the term: Toxicity.	01
	k) List the common organic materials that are suitable and unsuitable for composting.	01
	l) What is sustainable development?	01
	m) Define renewable sources of energy.	01
	n) What is geothermal energy?	01
	Attempt any four questions from Q-2 to Q-8	
Q-2	Attempt all questions	(14)
	(a) Calculate the population equivalent of a city given (i) average sewage from the city is 80×10^6 lit/day and (ii) the average 5 day BOD is 280 mg/lit.	05
	(b) Explain the adverse environmental impact of modern agriculture.	05
	(c) Explain the role of microorganism in the environment.	04
Q-3	Attempt all questions	(14)
	(a) Explain the growth pattern of microorganisms based on mass.	07
	(b) Enlist the different methods used for population forecast. Explain any one in detail.	07
Q-4	Attempt all questions	(14)



- (a) Enlist various water treatment techniques and explain any one in details. 07
 (b) The following data have been noted from the census department: 07

Year	Population
1960	7,000
1970	11,000
1980	16,000
1990	22,500

Forecast the population in the year 2000 and 2010 by incremental increase method.

Q-5 Attempt all questions (14)

- (a) Enumerate different physical and biological characteristics of water and discuss turbidity and its importance. 07
 (b) Differentiate primary and secondary air pollutants. Discuss the effects of carbon mono oxide on human beings. 07

Q-6 Attempt all questions (14)

- (a) Give IS standard for drinking water in India. 07
 (b) Enumerate different air pollution control devices and explain the functioning of scrubber. 07

Q-7 Attempt all questions (14)

- (a) Discuss briefly different disposal techniques of wastewater and explain with the sketch the oxygen sag curve. 07
 (b) What is dB? Give its values for different sources and discuss some ways to control noise pollution. 07

Q-8 Attempt all questions (14)

- (a) Describe the flow diagram of solid waste management indicating their all functional elements. 07
 (b) Explain the possible contributions of individuals towards energy conservation. 07

