[This question paper contains 4	printed pages.]	
1972	Your Roll No	
B.Sc. (H) Maths / B	.Sc. Prog. / III	E
EL 310 (i) - GREEN	CHEMISTRY	
(Admissions of 2003	5 and onwards)	
Time: 2 Hours	Maximum Mark.	s : 38
(Write your Roll No. on on receipt of this q		
Attempt four question.  Question No. 1 which		
1. Fill the blanks with approp	priate words:	
(i) Elimination reaction reaction.	ns are atom	(1)
(ii) Barry Trost is assoc	ciated with the conc	cept o
(iii) A Green bleaching a of paper from wood		luction (1)
(iv) Dry cleaning of clo eco friendly way by	thes can be achieved	
		(1

P.T.O.

	(v) Sc-CO <sub>2</sub> stands for
	(vi) An ultrasonic transducer converts energy
	into energy. (2)
	(vii) and are the examples of green house gases. (2)
	, ,
	(viii) Nitrous oxide causes environmental pollution by acting as
2.	(a) Write down the twelve basic principles of green
	chemistry. (6)
	(b) Discuss the use of diphenyl carbonate in solid state
	polymerization of amorphous polymers. (3)
3.	(a) Provide green route for the synthesis of (any
	Three):
	(i) Paracetamol
	(ii) Acetaldehyde
	(iii) Ibuprofen
	(iv) Methylmethacrylate (6)
	(b) Calculate the % atom economy for the following

chemical reactions:

(i) 
$$+ 4.5O_2 + 2H_2O$$
78 144 98

(ii) 
$$CH_3(CH_2)_2CH_2OH + SOC1_2 \longrightarrow CH_3(CH_2)_2CH_2Cl + SO_2 + HCl$$
  
102 119 120.5 (3)

- (a) Discuss briefly the problems associated with the conventional synthesis of adipic acid and BHT.
   Give the alternate green method of synthesis of adipic acid. (3)
  - (b) Discuss the Hofmann Elimination Reaction under conventional and microwave conditions. (3)
  - (c) "Saponification can be carried out under milder conditions using sonification". Justify giving an example.
- 5. (a) Write short notes on (any Two):
  - (i) Ultrasound assisted reaction.
  - (ii) Careful use of blocking/protecting groups.

(iii) Microbial Oxidation. (6)

(b) Discuss the advantages of using polymer supported reagents in a chemical reaction. Illustrate with an example. (3)