	Utech
Name:	
Roll No.:	A Description and Colomb
Invigilator's Signature :	

CS/MCA/SEM-4/HU (MCA)-401/2011 2011 ENVIRONMENT & ECOLOGY

Time Allotted: 3 Hours Full Marks: 70

The figures in the margin indicate full marks.

Candidates are required to give their answers in their own words as far as practicable.

GROUP - A

(Multiple Choice Type Questions)

- 1. Choose the correct alternatives for any ten of the following: $10 \times 1 = 10$
 - i) Air pollutant, which reduces oxygen carrying capacity of haemoglobin, is
 - a) carbon monoxide
 - b) ammonia
 - c) hydrogen sulphide
 - d) none of these.
 - ii) The decomposers could be
 - a) amoeba
- b) fungi
- c) earthworm
- d) all of these.

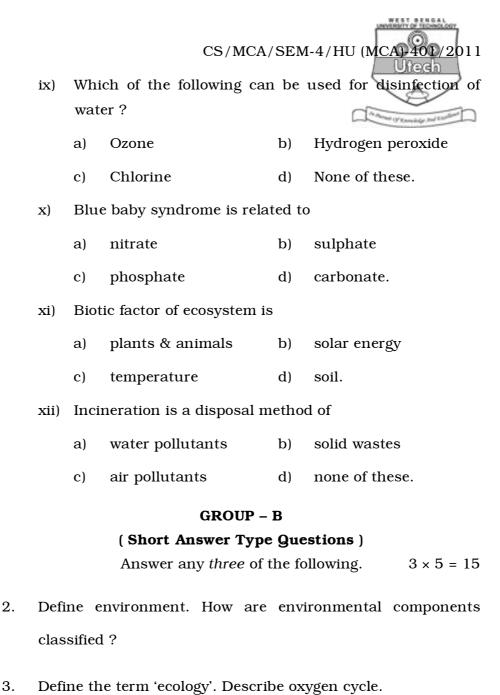
4231 [Turn over

CS/MCA/SEM-4/HU (MCA)-401/2011

				/ Utech \
iii)	Eart	th hour is celebrated to	creat	e consciousness about
	a)	water pollution	b)	noise pollution
	c)	global warming	d)	deforestation.
iv)	The	saturated value of DO i	s app	proximately
	a)	9 mg/L	b)	20 mg/L
	c)	6 mg/L	d)	5 mg/L.
v)	The	noise threshold limit va	due o	of sound level 110 dB is
	a)	30 minutes	b)	15 minutes
	c)	2 hrs	d)	8 hrs.
vi)	Ozo	ne is an essential comp	onen	t of
	a)	troposphere	b)	stratosphere
	c)	mesosphere	d)	ionosphere.
vii)	In a	seeded BOD test the di	lutio	n water contains
	a)	distilled water		
	b)	distilled water contain	ing so	ome microorganisms
	c)	distilled water contain	ing so	ome waste
	d)	none of these.		
viii)	Min	amata disease occurs d	ue to	
	a)	arsenic pollution		
	b)	lead pollution		
	c)	mercury pollution		
	d)	cadmium pollution.		

2

http://www.makaut.com



4231 3 [Turn over

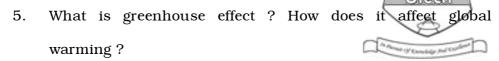
down their source and biochemical effects.

Name two hazardous chemicals present in waste water. Write

4.

2

CS/MCA/SEM-4/HU (MCA)-401/2011



6. What do you mean by hardness of water? Can hard water be used in boilers and laundries?

GROUP - C

(Long Answer Type Questions)

Answer any *three* of the following. $3 \times 15 = 45$

- 7. a) What is noise pollution? Discuss the adverse effects of noise on human health. 1+2
 - b) Define noise threshold limit value.
 - c) In a work area the noise levels are read as 95 dBA for 2 hrs a day, 90 dBA for 4 hrs a day, 80 dBA for remaining 2 hrs a day and permissible duration of each noise level is 95 dBA for 2 hrs, 90 dBA for 4 hrs and 80 dBA for 16 hrs. Find out the noise threshold limit value and predict whether the noise level is within permissible limit or not.
 - d) Briefly explain control measures at receiver's end to reduce noise pollution.5

		CS/MCA/SEM-4/HU (MCA) 401/2011
8.	a)	Name four air pollutants emitted from IC engine. 3
	b)	Why do CO is taken as major air pollutant? What is its
		source? Write its effect on living being. How can its
		emission be controlled? $2 + 2 + 2 + 2$
	c)	Compare photochemical smog and London smog. 4
9.	a)	Define "Energy Flow" in eco-systems. In an eco-system,
		although the inorganic nutrients are recycled, the flow
		of energy is not. Justify. 1 + 3
	b)	State the composition of lithosphere. Mention the
		different types of solid wastes. 2 + 2
	c)	Write down the disadvantages of Land-filling. 2
	d)	Define the terms Habitat, Population, Bio-community,
		Ecological Niche and Species. 5

5

[Turn over

CS/MCA/SEM-4/HU (MCA)-401/2011

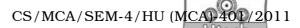


- 10. a) What is Biochemical Oxygen Demand (BOD
 - b) State the importance of adding azide in water samples before estimation of BOD.
 - c) Derive the equation

$$\mathrm{BOD}_w = \frac{\left(DO_i - DO_f\right) - \left(B_i - B_f\right)(1 - P)}{P}$$

where, DO_i = initial dissolved oxygen of the mixture of waste water and seeded dilution water

- DO_f = final dissolved oxygen of the mixture of waste water and seeded dilution water after 5 day period
- B_i = Initial dissolved oxygen in the seeded dilution water (Blank)
- B_f = Final dissolved oxygen in the seeded dilution water (Blank).
- d) Why is the value of COD greater than the value of BOD for a given water sample? Why is the value of BOD less than theoretical oxygen demand? 2+3



- 11. Write short notes on any *three* of the following:
 - a) Confined and unconfined aquifer
 - b) Mufflers
 - c) Harmful effects of CO and $\,{\rm SO}_2$
 - d) Catalytic converter
 - e) Ecological balance and instability.

4231 7 [Turn over