(Please write your Enrollment Number) Enrollment No. 02601032015

MINOR- I EXAMINATION
(Feb-March 2016)

Subject Code:BAS-106	Subject: Environmental Sciences
Time : 1 ½ Hours	Maximum Marks : 30

Note: Q. 1 is compulsory. Attempt any two questions from the rest.

Q1 **(2.5x4=10)**

(a) What are the sources and sinks of SO_2 as air pollutant?
(b) Explain in brief, the commonly used approaches for primary treatment of waste water.
(c) Discuss the importance of zero waste technology giving suitable examples
(d) What are the consequences due to the depletion of groundwater?

Q2 **(5,5)**

(a) What are the sources, effects and methods of disposal of radioactive wastes?
(b) Write short notes on:
(i) Selection of renewable feedstocks as starting material in a process.
(ii) Consequences of Deforestation

Q3 **(5,5)**

(a) What devices/methods are being used by industries to control particulate emissions? Discuss any two briefly.
(b) Discuss briefly the sources and various categories of water pollutants.

Q4 **(5,5)**

(a) Describe various treatment and disposal methodologies being used to manage solid waste
(b) Discuss Tools of Green Chemistry giving suitable examples.

First- Term Examination
Second Semester B.Tech

38

Subject Code: BAS-106
Subject: Env. Sciences
Time: 1.5 hours

ROLL NO. ----------
February 2014
Max. Marks: 30

NOTE: - **Attempt any three questions including Question 1, which is compulsory.**

Q1. (a) Explain the concept of atom economy with suitable example. 2.5x4
(b) Discuss the causes and consequences of water-logging.

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(Please write your Enrollment Number) Enrollment No. 9

MID TERM- I EXAMINATION
Semester – January 2015 - May 2015

Subject Code:BAS-106	Subject: Environmental Sciences
Time : 1 ½ Hours	Maximum Marks : 30
Note: Attempt any three questions	

Q1 (4,3,3)

(a) What are the sources , sinks and effects of Carbon monoxide as air pollutant?
(b) Explain in brief, the commonly used approaches for Secondary treatment of waste water.
(c) What is Atom Economy? Give two suitable examples

Q2 (4,6)

(a) What is carbon dioxide sequestration? How can CO_2 be sequestered artificially?
(b) Write short notes on:
(i) Under-nutrition and malnutrition
(ii) Salinity and water logging
(iii) Desertification

Q3 (5,5)

(a) What is photochemical smog? Describe the chemistry involved in its formation.
(b) What are the causes of deforestation in India? Describe briefly its effects on the environment.

Q4 (5,5)

(a) Discuss the physical and chemical processes used for treatment of hazardous waste
(b) Discuss five basic principles of Green Chemistry giving suitable examples.

(Please write your Enrollment Number) Enrollment No. 02401032015

MINOR- I EXAMINATION
(Feb-March 2016)

Subject Code:BAS-106	Subject: Environmental Sciences
Time : 1 ½ Hours	Maximum Marks : 30
Note: Q. 1 is compulsory. Attempt any two questions from the rest.	

Q1 (2.5x4=10)

(a) What are the sources and sinks of SO_2 as air pollutant?
(b) Explain in brief, the commonly used approaches for primary treatment of waste water.
(c) Discuss the importance of zero waste technology giving suitable examples
(d) What are the consequences due to the depletion of groundwater?

Q2 (5,5)

(a) What are the sources, effects and methods of disposal of radioactive wastes?
(b) Write short notes on:
(i) Selection of renewable feedstocks as starting material in a process.
(ii) Consequences of Deforestation

(Please write your Enrollment Number) Enrollment No._____

MID TERM EXAMINATION
(CBCS)
B. Tech (CSAI/ECE AI), 2nd Semester
(June, 2022)

Subject Code: BAS 106	Subject: Environmental Sciences
Time : 1.5 Hours	Maximum Marks : 30
Note:Q. 1 is compulsory. Attempt any one question from the rest.	

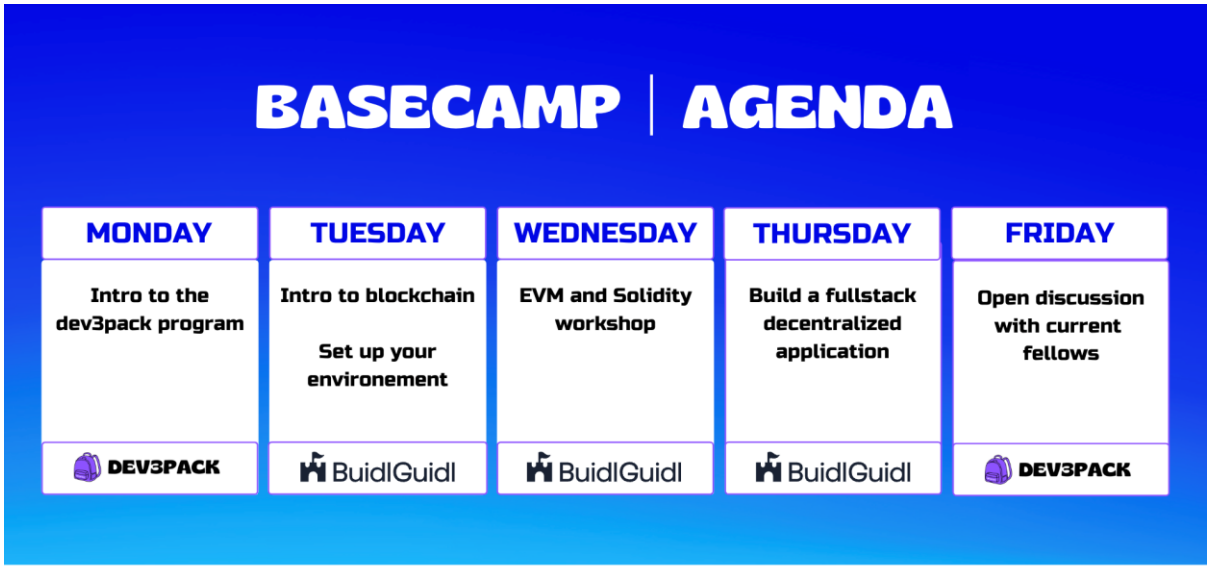
Q1		(4*2.5=10)
	(a) Explain the sources and control of CO pollution.	
	(b) Explain the concept of atom economy with the help of a green reaction from propyne to Methyl methacrylate.	
	(c) Give the classification of fuels with suitable examples.	
	(d) Discuss the ways by which water harvesting is practiced in India?	
Q2		(5+5=10)
	(a) List and Explain the secondary treatment of waste water treatment?	
	(b) Discuss the sources, sink and effects of oxides of sulphur as air pollutant	
Q3		(5+5=10)
	(a) Write a short note on (i) Salinity (ii) Salt Water Intrusion (b) What are the major issues existing in the world associated with the Food Problems and mention it's affects on human health?	
	(b) A sample of coal containing 93% C, 6% H, 1% ash. When this coal was tested for the calorific value in the bomb calorimeter, the following data were obtained:- Weight of coal burnt = 0.92 gm, Weight of water taken = 550 gm, Water equivalent of bomb and calorimeter = 2,200 gm, Rise in temperature = 2.42 °C, Cooling correction = 0.02 °C, Fuse wire correction = 10.0 cal, Acid correction = 50.0 cal. Calculate the net and gross calorific value of the coal in cal/gm. given latent heat of condensation of steam = 587 cal/g	
Q4		(5+5=10)
	(a) Discuss the Chemical processes for the management of Hazardous Wastes.	
	(b) Chemists some time refer to "byproducts" rather than "waste". List one advantage of using this term. How the new synthesis of Adipic acid is is better than the conventional synthesis. Explain.	

(Please write your Enrollment Number) Enrollment No._____

Supplementary Examination- ONLINE MODE
(CBCS)
<B.Tech < Second SEM>
(Jan, 2022)

Subject Code: BAS 106	**Subject:** Environmental Sciences
Time : 1 Hour 15 minutes	**Maximum Marks :** 30
Note: Q. 1 is compulsory. Attempt any one question from the rest.	

Q1		**(5*3=15)**
	(a) A gasoline is allotted octane number 80. What does it mean? Explain why a good petrol engine fuel is a bad fuel for diesel engine and vice versa. Arrange the following compounds in terms of their knocking properties; methyl cyclohexane, Heptane, benzene, and Iso pentane.	
	(b) (i) Sodium benzoate is used in food industry as a preservative. It can be made by reacting benzoic acid with a concentrated solution of sodium carbonate. Calculate the atom economy for the production of sodium benzoate. (ii) Illustrate the action of toxic heavy metals on enzyme using a suitable example.	
	(c) What are the major issues existing in the world associated with the Food Problems and mention its effects on human health?	
Q2		**(7.5+7.5= 15)**
	(a) A sample of coal containing 92% C, 5% H, 3% ash. When this coal was tested for the calorific value in the bomb calorimeter, the following data were obtained: - Weight of coal burnt = 0.95 gm, Weight of water taken = 700 gm, Water equivalent of bomb and calorimeter = 2,000 gm, Rise in temperature = 2.48 °C, Cooling correction = 0.02 °C, Fuse wire correction = 10.0 cal, Acid correction = 60.0 cal. Calculate the net and gross calorific value of the coal in cal/gm.	
	(b) List and Explain the Tertiary treatment of waste water treatment? According to you which method under 3° treatment offers higher efficiency with low cost, Explain?	
Q3		**(7.5+7.5= 15)**
	(a) (i) Calculate the number average and weight average molecular masses of polypropylene polymer with the following composition: $[-CH_2-CH(CH_3)-]_{50}$ is 25 %, $[-CH_2-CH(CH_3)-]_{100}$ is 35 %, $[-CH_2-CH(CH_3)-]_{75}$ is 40 %. {Given that atomic mass of C = 12, H = 1} (ii) Calculate the number average and weight average degree of polymerization.	
	(b) An industrial discharge of MeHg into Minamata Bay of Japan (1960) led to the poisoning of local fisherman and their families. Which form of mercury poisoning happened in this case? Discuss one more case study regarding the biochemical toxicity of mercury and its entry route into the body.	



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(Please write your Enrollment Number) Enrollment No._____

MID TERM EXAMINATION
(CBCS)
B. Tech (CSAI/ECE AI), 2nd Semester
(June, 2022)

Subject Code: BAS 106	Subject: Environmental Sciences
Time : 1.5 Hours	Maximum Marks : 30
Note:Q. 1 is compulsory. Attempt any one question from the rest.	

Q1		(4*2.5=10)
	(a) Explain the sources and control of CO pollution.	
	(b) Explain the concept of atom economy with the help of a green reaction from propyne to Methyl methacrylate.	
	(c) Give the classification of fuels with suitable examples.	
	(d) Discuss the ways by which water harvesting is practiced in India?	
Q2		(5+5=10)
	(a) List and Explain the secondary treatment of waste water treatment?	
	(b) Discuss the sources, sink and effects of oxides of sulphur as air pollutant	
Q3		(5+5=10)
	(a) Write a short note on (i) Salinity (ii) Salt Water Intrusion (b) What are the major issues existing in the world associated with the Food Problems and mention it's affects on human health?	
	(b) A sample of coal containing 93% C, 6% H, 1% ash. When this coal was tested for the calorific value in the bomb calorimeter, the following data were obtained:- Weight of coal burnt = 0.92 gm, Weight of water taken = 550 gm, Water equivalent of bomb and calorimeter = 2,200 gm, Rise in temperature = 2.42 °C, Cooling correction = 0.02 °C, Fuse wire correction = 10.0 cal, Acid correction = 50.0 cal. Calculate the net and gross calorific value of the coal in cal/gm. given latent heat of condensation of steam = 587 cal/g	
Q4		(5+5=10)
	(a) Discuss the Chemical processes for the management of Hazardous Wastes.	
	(b) Chemists some time refer to "byproducts" rather than "waste". List one advantage of using this term. How the new synthesis of Adipic acid is is better than the conventional synthesis. Explain.	

(Please write your Enrollment Number) Enrollment No._____

MID TERM EXAMINATION

(CBCS)
B. Tech (CSE/ECE), 2nd Semester
(June, 2022)

Subject Code: BAS 106 **Subject:** Environmental Sciences

Time : 1 ½ Hours **Maximum Marks :** 30

Note:Q. 1 is compulsory. Attempt any one question from the rest.

Q1		**(4*2.5=10)**
	(a) What do you understand by natural and artificial sequestration of CO_2?	
	(b) Explain in brief the "4 R principle" to be followed for managing solid waste pollution.	
	(c) What do you understand by the term "Green starting materials"? Explain it with a suitable example.	
	(d) Write a short note on (i)Under Nutrition (ii)Mal Nutrition	
		(5+5=10)
	List and Explain the Tertiary treatment of waste water treatment? According to ou which method under 3° treatment offers higher efficiency with low cost, Explain?	
	(b) What is Photochemical smog? Describe the chemistry involved in its formation.	
Q3		**(5+5)=10)**
	(a) What are the affects of excess usage of chemical fertilizers and pesticides?	
	(b) What is Acid Rain? Explain the chemistry behind the formation of Acid Rain.	
Q4		**(5+5)=10)**
	(a) A sample of coal containing 93% C, 6% H, 1% ash. When this coal was tested for the calorific value in the bomb calorimeter, the following data were obtained:- Weight of coal burnt = 0.92 gm, Weight of water taken = 550 gm, Water equivalent of bomb and calorimeter = 2,200 gm, Rise in temperature = 2.42 °C, Cooling correction = 0.02 °C, Fuse wire correction = 10.0 cal, Acid correction = 50.0 cal. Calculate the net and gross calorific value of the coal in cal/gm. given latent heat of condensation of steam = 587 cal/g	
	(b) Discuss any five principles of Green chemistry with suitable examples.	

(Please write your Enrollment Number) Enrollment No._____

Supplementary Examination- ONLINE MODE
(CBCS)
<B.Tech < Second SEM>
(Jan, 2022)

Subject Code: BAS 106	**Subject:** Environmental Sciences
Time : 1 Hour 15 minutes	**Maximum Marks :** 30
Note: Q. 1 is compulsory. Attempt any one question from the rest.	

Q1		**(5*3=15)**
	(a) A gasoline is allotted octane number 80. What does it mean? Explain why a good petrol engine fuel is a bad fuel for diesel engine and vice versa. Arrange the following compounds in terms of their knocking properties; methyl cyclohexane, Heptane, benzene, and Iso pentane.	
	(b) (i) Sodium benzoate is used in food industry as a preservative. It can be made by reacting benzoic acid with a concentrated solution of sodium carbonate. Calculate the atom economy for the production of sodium benzoate. (ii) Illustrate the action of toxic heavy metals on enzyme using a suitable example.	
	(c) What are the major issues existing in the world associated with the Food Problems and mention its effects on human health?	
Q2		**(7.5+7.5= 15)**
	(a) A sample of coal containing 92% C, 5% H, 3% ash. When this coal was tested for the calorific value in the bomb calorimeter, the following data were obtained: - Weight of coal burnt = 0.95 gm, Weight of water taken = 700 gm, Water equivalent of bomb and calorimeter = 2,000 gm, Rise in temperature = 2.48 °C, Cooling correction = 0.02 °C, Fuse wire correction = 10.0 cal, Acid correction = 60.0 cal. Calculate the net and gross calorific value of the coal in cal/gm.	
	(b) List and Explain the Tertiary treatment of waste water treatment? According to you which method under 3° treatment offers higher efficiency with low cost, Explain?	
Q3		**(7.5+7.5= 15)**
	(a) (i) Calculate the number average and weight average molecular masses of polypropylene polymer with the following composition: $[-CH_2-CH(CH_3)-]_{50}$ is 25 %, $[-CH_2-CH(CH_3)-]_{100}$ is 35 %, $[-CH_2-CH(CH_3)-]_{75}$ is 40 %. {Given that atomic mass of C = 12, H = 1} (ii) Calculate the number average and weight average degree of polymerization.	
	(b) An industrial discharge of MeHg into Minamata Bay of Japan (1960) led to the poisoning of local fisherman and their families. Which form of mercury poisoning happened in this case? Discuss one more case study regarding the biochemical toxicity of mercury and its entry route into the body.	