Faculty of Engineering			
Ramaiah University of Applied Sciences			
Department	**Civil Engineering**		
Programme	**B. Tech**	**Branch**	**All**
Batch	**2017**	**Semester**	**1st**
Course Code	**MCC102A**	**Course Title**	**Environmental Studies**
Course Leader	**Priyanka N**		

Assignment 01			
Reg.No.		**Name of Student**	

Assignment					
Sections	**Marking Scheme**		**Marks**		
			Max Marks	**First Examiner Marks**	**Second Examiner Marks**
A	1.1	Advantages and disadvantages of concrete	3		
	1.2	Effect of concrete on the Environment	5		
	1.3	Justification of the stance taken	2		
		A Max Marks	**10**		
B.1					
	1.1	Effects of Fracking on soil and ground water table	5		
	1.2	Methods to overcome the effects due to Fracking	5		
		B.1 Max Marks	**10**		
B.2					
	2.1	Impact of mobile phones on flora and fauna	5		
	2.2	Effect of Electromagnetic radiation on Sparrows	5		
		B.2 Max Marks	**10**		
B.3					
	3.1	Role of Genetic Engineering the development of a country	5		
	3.2	Effect of Genetically Modified Crops on human health	5		
		B.3 Max Marks	**10**		
B.4					
	4.1	Causes for change in climate	5		

	4.2	Methods to create awareness among people about climatic change	5		
		B.4 Max Marks	**10**		
		Total Assignment Marks	**50**		

Course Marks Tabulation				
Component-1 (B) Assignment	**First Examiner**	**Remarks**	**Second Examiner**	**Remarks**
A				
B.1				
B.2				
B.3				
B.4				
Marks (Max 50)				
Marks (out of 25)				

Signature of First Examiner Signature of Second Examiner

Please note:

1. Documental evidence for all the components/parts of the assessment such as the reports, photographs, laboratory exam / tool tests are required to be attached to the assignment report in a proper order.
2. The First Examiner is required to mark the comments in RED ink and the Second Examiner's comments should be in GREEN ink.
3. The marks for all the questions of the assignment have to be written only in the **Component – CET B: Assignment** table.
4. If the variation between the marks awarded by the first examiner and the second examiner lies within +/- 3 marks, then the marks allotted by the first examiner is considered to be final. If the variation is more than +/- 3 marks then both the examiners should resolve the issue in consultation with the Chairman BoE.

Assignment I

Instructions to students:

1. The assignment consists of 5 questions: Part A – 1 Question, Part B- 4 Questions.
2. Maximum marks is 25.
3. The assignment has to be neatly word processed as per the prescribed format.

4. The maximum number of pages should be restricted to **20**.
5. Restrict your report for Part-A to 3 pages only.
6. Restrict your report for Part-B to a maximum of 17 pages.
7. The printed assignment must be submitted to the course leader.
8. **Submission Date: XX-XX-XXXX**
9. **Submission after the due date is not permitted.**
10. **IMPORTANT**: It is essential that all the sources used in preparation of the assignment must be suitably referenced in the text.
11. Marks will be awarded only to the sections and subsections clearly indicated as per the problem statement/exercise/question

Course Preamble

This course deals with the essential aspects of environment and ecosystem with relevance to engineering technology. The course exposes the students to various problems associated with abuse of natural resources. The concepts of ecosystems, biodiversity and its conservation and environmental pollution will be discusses. The subject emphasizes social issues associated with the environment, and the impact of human population on the environment

Part A **(10 marks)**

Preamble:

Concrete is the most widely used man made construction material in the world. Concrete is obtained by mixing cement, water and aggregates with or without admixture. It is used in the construction of important Engineering structures such as bridges, culverts, dams, tunnels, light houses. Concrete is economical in the long run as compared to other materials. It has high compressive strength with minimal corrosive and weathering effects. Concrete also has drawbacks including low tensile strength, contraction and expansion with change in temperature etc. In addition to this, approximately 7% of world's Carbon dioxide emission is due to cement industry. Concrete also causes damage to the most fertile layer of the earth, the topsoil.

In this context, debate on the topic entitled **"Concrete is boon or bane to the Environment"**

The report should address the following aspects

A1.1 Advantages and disadvantages of concrete

A1.2 Effect of concrete on the Environment

A1.3 Justification of stance taken

B.1 **10 Marks**

Hydraulic fracturing, commonly called fracking, is a drilling technique used for extracting oil or natural gas from deep underground practiced in different parts of the world. Water, sand and chemicals are injected into the rock at high pressure which allows the gas to flow out to the head of the well. Fracking allows drilling firms to access difficult-to-reach resources of oil and gas. Fracking has greater effects on the environment. Environmentalists say potentially carcinogenic chemicals used may escape and contaminate groundwater around the fracking site.

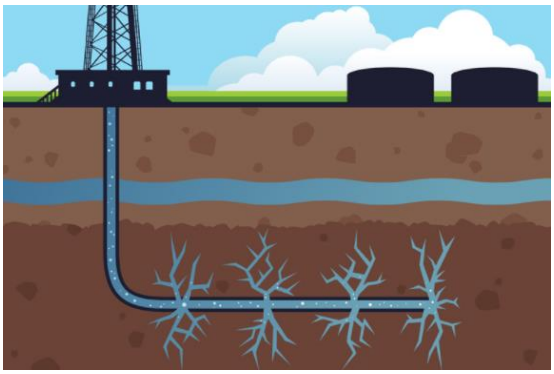

Fig 1

In the above context discuss the following

B1.1 Effects of Fracking on soil and ground water table

B1.2 Methods to overcome the effects due to Fracking

B.2 **10 Marks**

India is one of the fastest growing mobile telephony industries in the world. Electromagnetic radiation from mobile phone base stations has become a global concern for its adverse effects on human health as well as on flora and faunas. All mobile phone towers emit microwave radiation, which is Radio Frequency Radiation (RFR), part of the spectrum of electromagnetic waves. Long-term exposure to low level RFR has damaging effects on the nervous system and immune system of small animals. Studies indicate that short-term exposure of pulsed mobile phone radiation with carrier frequency 900 MHz reduced the reproductive capacity of insects by 60%.

Fig 2

In the above context discuss the following

B2.1 Impact of mobile phones on flora and fauna

B2.2 Effect of Electromagnetic radiation on Sparrows

B.3 **10 Marks**

Biotechnology encompasses a wide range of technologies and they can be applied for a range of different purposes, such as the genetic improvement of plant varieties and animal populations. Genetic modification of food using biotechnology is called Genetic Engineering. Genetically Modified Organisms, or GMOs, are plants that have their genes manipulated. They give the crops new characteristics, like insect resistance, larger yields, and faster growing traits. The use of GMOs is hardly new, but many believe that sufficient research on the long term effects has not been conducted.

Fig 3

In the above context discuss the following

B3.1 Role of Genetic Engineering the development of a country

B3.2 Effect of Genetically Modified Crops on human health

B.4 **10 Marks**

The subjects of “global warming” and “climate change” has become a matter of concern in recent days. Climate change refers to significant, long-term changes in the global climate. It was observed that June 2017 was the fourth-warmest June in 137 years of modern record-keeping, according to a monthly analysis of global temperatures by scientists at NASA's Goddard Institute for Space Studies (GISS) in New York. The climate change will have a large impact on the Environment in coming years and there need for creating awareness among the people.

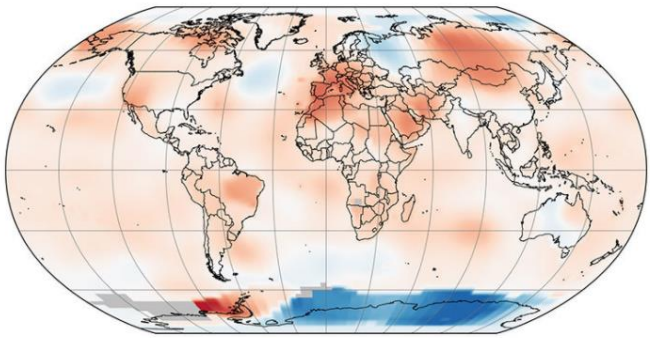

Fig 4

In the above context discuss the following

B4.1 Causes for change in climate

B4.2 Methods to create awareness among people about climatic change