



# MAULANA ABUL KALAM AZAD UNIVERSITY OF TECHNOLOGY, WEST BENGAL

Paper Code : MC 401/MC-401/MC401 Environmental Sciences

UPID : 004421

Time Allotted : 3 Hours

Full Marks : 70

The Figures in the margin indicate full marks.

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

## Group-A (Very Short Answer Type Question)

1. Answer any ten of the following :

[ 1 × 10 = 10 ]

- (i) What are causes of acid rain and what is its effects on natural environment ?
- (ii) What do you understand by GCM ?
- (iii) What are In-situ and Ex-situ conservation method of biodiversity ?
- (iv) Graphically explain the relationship between BOD and DO.
- (v) What are the various sources of water pollution ?
- (vi) Mention name of few gases generated from Incineration plant .
- (vii) Mention various types of noise pollution and its effects on human being.
- (viii) What authorizes the Central Government of India in Environmental Protection Act, 1986 ?
- (ix) What are the various types of earthquake waves generated in the earth surface?
- (x) Mention the types and function of various components of ecosystem.
- (xi) Mention the various elements of air pollution as per NAAQS.
- (xii) What is meant by 5-day BOD and Ultimate BOD?

## Group-B (Short Answer Type Question)

Answer any three of the following :

[ 5 × 3 = 15 ]

2. (i) Explain with neat diagram the internal structure of the Earth. [5]
- (ii) What do you mean by rock cycle?
3. (i) What do you mean by maximum mixing depth? [5]
- (ii) Differentiate between Ambient lapse rate and Adiabatic lapse rate.
4. (i) Define flood and how can it be mitigated and controlled ? [5]
- (ii) What do you understand by anthropogenic environmental degradation ?
5. (i) Write the equation for population growth and explain the notations. [5]
- (ii) How to calculate "Natural Increase Rate" ?
6. (i) How arsenic get dissolved in groundwater in the aquifer system ? [5]
- (ii) How many districts in West Bengal are exposed to groundwater arsenic contamination ?

## Group-C (Long Answer Type Question)

Answer any three of the following :

[ 15 × 3 = 45 ]

7. (i) What are different types of solid wastes ? [ 4 + 6 + 5 ]
- (ii) What are the methods of solid waste disposal and management ?
- (iii) What are the advantages and disadvantages of Land filling of solid waste ?
8. (i) What are Nutrient cycles and how are they important for our environment ? [ 4 + 6 + 5 ]
- (ii) Draw a flowchart for Nitrogen Cycle.
- (ii) Explain Biogeochemical cycle by a diagram .
9. (i) Mention various types of greenhouse gases and its effects on terrestrial ecosystems. [ 6 + 5 + 4 ]
- (ii) How global warming and climate change are related? ]
- (iii) What is short wave and long wave radiation ?
10. (i) Why sustainable growth is considered modern concept of development ? [ 5 + 3 + 7 ]
- (ii) How population growth in India can be controlled ? ]
- (iii) If the present population of the World is 8.00 billion, what would be the population of the World after 25 years with a growth rate of 1% per year ?
11. (i) What is a groundwater aquifer, aquiclude and aquitard. Explain with neat diagram. [ 6 + 4 + 5 ]
- (ii) How groundwater is recharged ? ]

(iv) What do you understand by Rooftop rainwater harvesting ?