

2020
ENVIRONMENTAL SCIENCE
[HONOURS]
Paper : V

Full Marks : 75

Time : 4 Hours

*The figures in the right-hand margin indicate marks.**Candidates are required to give their answers in their own words as far as practicable.*

1. Answer any **five** of the following: $2 \times 5 = 10$
- i) Define water pollution.
 - ii) What is ENSO and La-niño?
 - iii) What is biodiesel?
 - iv) What are the main gases present in Bio-gas?
 - v) Mention two responses of ionising radiation in tissue system.
 - vi) Define Biomagnification.
 - vii) Distinguish between LD_{50} and LC_{50} .
 - viii) Name the enzymes present in lysosomes.

2. Answer any **three** of the following: $5 \times 3 = 15$
- i) What is PAH? Write a short note on pyrosynthesis of PAH. $2+3=5$
 - ii) What is indoor air pollution? State the different constituents of indoor air pollution. $2+3=5$
 - iii) Enumerate the process of fermentation technique. Write two applications of fermentation. $4+1=5$
 - iv) Write down the differences between London smog and Los Angeles smog. 5
 - v) Define soil pollution. Enumerate the different sources of soil pollution. $2+3=5$
3. Answer any **five** of the following: $10 \times 5 = 50$
- i) Explain the process of eutrophication. Write down the role of municipal sewage in eutrophication. What are the hazardous wastes coming out from the pesticidal industry? $4+4+2=10$
 - ii) Distinguish between sound and noise. How do you calculate the intensity of noise? What is NEI? $4+4+2=10$

- iii) What is background radiation? Mention the different sources of man-made radiations. Describe the health hazards caused by radiation. $2+3+5=10$
- iv) What is xenobiotics? Describe the different aspects of cumulative dose-response relationship in toxicology. $4+6=10$
- v) What are the different types of bio-fertilizers? Describe the action of microorganisms during bio-leaching process. $6+4=10$
- vi) Draw and describe the structural components of an Eukaryotic cell. What is Archaea? $8+2=10$
- vii) What is teratogenicity? What are the types of genotoxic agents? Mention the chronic toxic effects of cadmium (Cd) on human being. $2+4+4=10$
- viii) Describe the structure of mitochondria with neat diagram. Mention the functions of mitochondria in maintaining cellular activity. $(3+2)+5=10$
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