

U.G. 4th Semester Examination - 2022

ENVIRONMENTAL SCIENCE

[HONOURS]

Skill Enhancement Course (SEC)

Course Code : ENVS-H-SEC-L-02A&B

Full Marks : 40

Time : 2 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.

Answer all the questions from selected option.

OPTION-A

ENVS-H-SEC-L-02A

(Environmental Impact and Risk Assessment)

1. Answer any **five** of the following: $2 \times 5 = 10$

- a) What is meant by energy audit?
- b) Define EIA.
- c) Differentiate between the criteria required to screen Category A and Category B project.
- d) Differentiate between normative and informative standards of ISO 14000.
- e) What is the advantage of eco-labelling?

f) Why is 'baseline data' collected for EIA?

g) Draw the phases of LCA.

h) What does the ISO 14000 series cover?

2. Answer any **two** of the following: $5 \times 2 = 10$

- a) State the prime objectives of EIA. What are the benefits of EMS?
- b) What are the principal areas of environmental auditing?
- c) What are the advantages of exposure assessment?
- d) What are the standard steps of hazard identification and assessment?

3. Answer any **two** of the following: $10 \times 2 = 20$

- a) Describe the steps and methods used in EIA of an industry.
- b) Describe EMS model.
- c) What are the scope and strategies of SEA? Compare between EIA and SEA. $6+4$
- d) How a cost-benefit analysis is conducted for an environmental project?

OPTION-B
ENVS-H-SEC-L-02B
(Environmental Quality Monitoring
and Assessment)

1. Answer any **five** of the following: $2 \times 5 = 10$

- a) What is meant by environmental quality monitoring?
- b) Define MLSS and MLVSS.
- c) Differentiate between accuracy and precision?
- d) Define environmental standards.
- e) Define point-and non-point sources of air pollution with examples.
- f) Write down the auto emission standards.
- g) Define gravimetry.
- h) Write down the maximum permissible limits of pH, TDS, hardness, and alkalinity in water as per IS 10500 : 2012.

2. Answer any **two** of the following: $5 \times 2 = 10$

- a) Write a short note on ISO 14000 series.
- b) Write down the strategies for solid and hazardous waste management in an industry.

- c) Explain the role of legislative instruments to mitigate water pollution.
- d) Discuss in brief environmental quality zone mapping.

3. Answer any **two** of the following: $10 \times 2 = 20$

- a) Define waste water. How valuable materials can be recovered from waste water? Explain the basic processes of waste water treatment.
 $2+3+5$
- b) Define soil pollution. Write down the causes of soil pollution. Illustrate the impacts of soil pollution on the environment. $2+3+5$
- c) Distinguish between primary and secondary pollutants. Explain the process of formation of acid rain. Write down the strategies to mitigate particulate emission from industries.
 $2+3+5$
- d) Describe the principle and procedure for estimation of SPM, SO_x and NO_x in air sample.

10