10/Env.Sc/H/I

UG/1st Sem/ENVH/CC-L-I/18

U.G. 1st Semester Examination - 2018 ENVIRONMENTAL SCIENCE (HONOURS)

Course Code : ENVH/CC-L-I

Earth and Earth Surface Processes

Full Marks: 40 Time: $2\frac{1}{2}$ 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.

1. Write short notes on (any five):

 $2 \times 5 = 10$

- Earth's Core
- Lower atmosphere
 - c) Holocene Period
- Hotspot
- Sedimentation
 - f) Anticlone structure
 - g) Lower order streams
 - h) Glacial deposit

2. Write notes on any two of the following:

 $5 \times 2 = 10$



Geological time scale

b) Lithification process



Physical and chemical weathering of rocks



Aravalli mountain

3. State and explain the following (any two):

 $10 \times 2 = 20$

- a) What is volcanism? State the difference between volcanism and magmatism.
- What is rock-cycle? Explain it with neat sketches.
- c) What is the difference between fluvial deposit and eolian deposit? Explain with neat sketches.
- d) What is Pacific Ring of Fire? Explain the role of plate tectonics in earthquake generation.

U.G. 1st Semester Examination - 2018 ENVIRONMENTAL SCIENCE (HONOURS)

Course Code: ENVH/CC-L-II

Environmental Chemistry & Environmental Physics

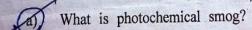
Full Marks: 40 Time: $2\frac{1}{2}$ Hours

The figures in the right-hand margin indicate marks.

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

1. Answer any five of the following:

 $2\times5=10$

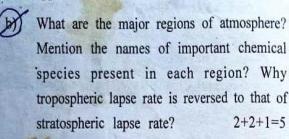


- b) Define molarity and normality. Give examples.
- c) What is Antarctic vortex?
- d) Distinguish between ionization potential and electron affinity.
- What are the major inorganic and organic components of soil?
- What are the different heat transfer processes?

 State the First and Second Law of thermodynamics.
 - h) Explain Stefan Boltzmann's Law.

Answer any two of the following:

a) Define a metal chelate complex. Discuss some applications of metal chelates. 2+3=5



- c) What do you mean by persistent and nonpersistent pesticides? Classify the pesticides on the basis of their
 - i) origin and
 - ii) chemical groups.

Give examples.

2+3=5

 $5 \times 2 = 10$

- d) Write short notes on (any one): $5 \times 1=5$
 - i) Lambert-Beer's law and its applications
 - ii) Carnot engine and its importance

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

Discuss in detail the mechanisms of ozone layer depletion. How does ozone layer depletion affect living organism? How ozone layer can be protected?

4+2+4=10

- b) What is the relation between atmospheric stability and temperature? Define adiabatic lapse rate and ambient lapse rate. Explain temperature inversion.

 3+4+3=10
- Define the terms: Diffusion and dispersion.

 What is plume? How many types of plume can be expected? Why does the shape of plume differ? What are ventilation coefficient and maximum mixing depth? 2+1+3+2+2=10
- d) Write short notes on the following (any one): $10 \times 1 = 10$



Water quality monitoring,

ii) Soil quality monitoring

(3)