

**M.Sc. DEGREE I SEMESTER EXAMINATION IN ENVIRONMENTAL TECHNOLOGY,
DECEMBER 2005**

ENB 2103 PHYSICAL PROCESSES IN THE ENVIRONMENT

Time : 3 Hrs.

Maximum marks : 50

PART – A

(25 Marks)**I. Fill in the blanks:-****(5 x 0.5 = 2.5)**

1. Temperature in the tropospherewith height
2. Normal onset day of southwest monsoon over Kerala is on
3. Coriolis force arises due to the of Earth
4. Mean sea level pressure is hPa.
5. cloud is known as fair weather cloud.

II. Name the following**(5 x 0.5 = 2.5)**

1. Incoming solar radiation
2. Rate of change of temperature with height
3. Suspended particle in the atmosphere
4. Increase in mean temperature of the Earth and its atmosphere.
5. Movement of Earth around the Sun.

III. Define the following:-**(5 x 1 = 5)**

1. Albedo
2. Greenhouse Effect
3. Potential temperature
4. Hydrostatic balance
5. Atmospheric window

IV Distinguish between the following :-**(4 x 1.5 = 6)**

1. Coriolis force and centrifugal force
2. Low cloud and high clouds
3. DALR and SALR
4. Land and sea breezes

V. Write short notes on any ONE of the following**(1 x 3 = 3)**

1. Heat balance of the Earth-atmosphere system
2. Meteorological factors affecting pollutants

VI. Write an essay on any ONE of the following:-**(1 x 6 = 6)**

1. Climate change and its variability
2. Monsoons over Indian subcontinent.

PART – B

*Answer all questions
All questions carry equal marks*

- VII. Choose the most appropriate answer from the following (10 x 0.5 = 5)
1. All the weather systems occur in
(A) *Troposphere* (B) *Stratosphere* (C) *Mesosphere*
 2. The most important minor constituent in the atmosphere is
(A) *Nitrogen* (B) *Oxygen* (C) *Ozone*
 3. Thunderstorm cloud is
(A) *Cirrocumulus* (B) *Altostratus* (C) *Cumulonimbus*
 4. Underground reservoirs are known as:
(A) *Glacier* (B) *Aquifer* (C) *Springs*
 5. Crystals are formed when lava?
(A) *Cools fast* (B) *Cools slowly* (C) *Doesn't cool*
 6. Fossils are embedded in?
(A) *Metamorphic rock* (B) *Sedimentary rock* (C) *Igneous rock*
 7. A group of islands; an expanse of water with scattered islands is known as
(A) *Archipelago* (B) *Estuary* (C) *Lake*
 8. Which event below can cause a tsunami?
(A) *Monsoon* (B) *Landslides* (C) *Underwater earthquakes*
 9. If you followed a single drop of water during a passing wave, in which motion would it move?
(A) *Forward* (B) *Vertical circle* (C) *Horizontal circle*
 10. What is the horizontal distance, either between the crests or troughs of two consecutive waves?
(A) *Wave period* (B) *Wavelength* (C) *Waveheight*

VIII. Write notes on any FOUR of the following

(4 x 2.5 = 10)

- (a) Atmospheric boundary layer
- (b) Gaussian plume model
- (c) Artificial rainmaking
- (d) Hydrological cycle
- (e) Geological time scale
- (f) Waves and tides
- (g) Water conservation

IX. Elaborate upon any TWO of the following

(2 x 5 = 10)

- (a) Groundwater exploitation and management
- (b) Geological hazards and mitigation
- (c) Sea level changes
- (d) Air pollution