7. Gutenberg discontinuity lies between -
   (a) core and mantle.
   (b) crust and mantle.
   (c) crust and core.

8. Laterite is resultant to weathering of -
   (a) soil.
   (b) rock.
   (c) glacier.

9. Exfoliation of rocks is due to -
   (a) mechanical weathering.
   (b) chemical weathering.
   (c) organic decomposition.

10. Coastal erosion is caused by -
   (a) monsoon wave set up.
   (b) the increased tidal pull in monsoon season.
   (c) due to shearing of bottom water by mobile oceanic plates.

VIII. Write notes on ANY FOUR of the following:- (4 x 2½ = 10)

(a) Ekman spiral.
(b) Deforestation and erosion.
(c) Groundwater recharge.
(d) Internal structure of the earth.
(e) Chief types of landslides.
(f) Causes of coastal erosion.
(g) Role of mangroves in the coastal ecosystems.

IX. Elaborate upon ANY TWO of the following: (2 x 5 = 10)

(a) Hydrograph - construction and application.
(b) Aquifer controls in metamorphic terrains.
(c) Typical aspects of fluvial landform.
(d) Coastal land zone management.

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M.SC DEGREE I SEMESTER EXAMINATION IN ENVIRONMENTAL TECHNOLOGY DECEMBER 2004

ENB 2103 PHYSICAL PROCESS IN THE ENVIRONMENT

Time : 3 Hours Maximum Marks: 50

ANSWER EACH PART IN SEPARATE ANSWER BOOKS

PART - A

(25 Marks)

I. Fill in the blanks:- (5 x ½ = 2½)

1. The period from.....to.....is classified as the period of south west monsoon in India.
2. Thunder is a clear indication of presence of.....cloud.
3. The Coriolis force acts perpendicularly .....on a moving air parcel, in the southern hemisphere.
4. Water vapour holding capacity of air.....with increase in air temperature.

II. Name the following:- (5 x ½ = 2½)

1. Reflectivity of a body.
2. The radiations from the Earth and its atmosphere.
3. Surface winds in between 60^{o} and 90^{o} latitudes.
4. The phenomenon responsible for warm weather in cloudy nights than cloud free nights.
5. Thunder producing cloud.

(Turn Over)

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

1. D.A.L.R.
2. Geostrophic motion.
3. Weather.
4. Wien's Displacement Law.
5. Aerosol.

IV. **Distinguish between:-** (4 x 1½ = 6)

1. Cyclone and anticyclone.
2. I.T.C.Z. and Polar Front.
3. Isothermal and adiabatic processes.
4. Katabatic and anabatic winds.

V. **Write short note on ANY ONE of the following:-** (1 x 3 = 3)

1. Indian monsoon.
2. Cloud formation and classification.

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

1. Composition of atmosphere.
2. Climate of India.

Contd. 3

PART - B

(Answer ***ALL*** questions)

(All questions carry ***EQUAL*** marks)

(10 x ½ = 5)

I. **Choose the most appropriate answer:-**

1. The outer most portion of the earth's atmosphere is referred to as -
   - (a) stratosphere.
   - (b) asthenosphere.
   - (c) exosphere.

2. Global warming is the consequence of -
   - (a) release of radio active heat to the crust.
   - (b) increased volcanism in the post tertiary.
   - (c) addition of large volumes of green house gases.

3. Coriolis force refers to the -
   - (a) orbital movement of the earth.
   - (b) ocean currents.
   - (c) wind forces on the earths surface.

4. The flow chart of inter-relationships among surface, ground and atmospheric waters is referred to as -
   - (a) life cycle.
   - (b) hydrological cycle.
   - (c) circulation cycle.

5. Porosity of a rock is not necessarily an indicator of its -
   - (a) specific gravity.
   - (b) permeability.
   - (c) porespace.

6. Saline incursions into coastal aquifers is due to -
   - (a) over exploitation of groundwater.
   - (b) excessive salinity of sea water in summer season.
   - (c) lack of seawalls along the coast.

Contd.....4