Your Roll No.....

P.G. Diploma in Environmental Monitoring and Impact Assessment
Annual Examination-2010
Paper No: PGDEMIA-103
Instrument in Environment Monitoring

Time: 2 ½ hours Maximum marks: 70

Attempt all questions from the section I, any six questions from section II and any three questions from section III

Section I

1. pH indicators change its color at certain 1×10=10
   a) pH
   b) Temperature
   c) Humidity
   d) None of the above

2. The addition of acids to water causes the concentration of hydrogen ions to be
   a) Greater than 1×10^{-7} mole/l
   b) Lesser than 1×10^{-7} mole/l
   c) Greater than 1×10 mole/l
   d) Lesser than 1×10 mole/l

3. Litmus is extracted from
   a) Bacteria
   b) Fungus
   c) Lichens
   d) None of the above

4. On increasing temperature the conductivity of a solution is
   a) Increased
   b) Decreased
   c) Stable
   d) None of the above

5. Low speed centrifuge typically attain rotation speeds
   a) More than 10,000 rpm
   b) Less than 10,000 rpm
   c) More than 30,000 rpm
   d) More than 1,20,000 rpm

Section-II

1. Enlist the devices used for measuring volume and discuss pipettes in detail 6x5= 30

2. Write informative notes on any two

   a) Basic design of conductivity meter
   b) Basic principle of centrifuge
   c) Types of balances
   d) Filtration systems

3. Explain principle of gas chromatography. Difference between packed column and opened tubular column

4. Write a note on classification of chromatography

5. Explain principle and application of UV visible spectrophotometer

6. Draw flow diagram of flame photometer and atomic absorption spectrometer.

7. Discuss supporting media used in the electrophoresis

8. Explain principle and application of electrophoresis

Section III

1. Give the detailed account of pH indicators and pH meter. 10x3=30

2. Explain principle and construction of high performance liquid chromatography

3. Write basic principle, application and instrumentation of TLC

4. Explain principle and components of atomic absorption spectroscopy

5. Discuss high volume air samples