Analytical Inst. / INST / @ 19.12.15
Sem: VI

QP Code : 6482

(3 Hours)   [Total Marks : 80

N.B. : (1) Question no. **1** is **compulsory**
       (2) Attempt **any three** questions from the remaining.
       (3) Figures to the right indicate full marks.
       (4) Draw **neat** labelled **diagrams**, wherever necessary.
       (5) Assume suitable data if necessary.

1. Attempt **any four** questions from the following : muADDA.com   20
    (a) Explain working of photomultiplier tube.
    (b) Explain the basic principle of mass spectroscopy.
    (c) Draw and explain working of pulse height analyser.
    (d) What is temperature programming in Gas Chromatography?
    (e) A solution containing the complex formed between Bi (III) and thiourea has a
         molar absorptivity of 9.32×10^3 Lcm^{-1} at 470 nm. What is the absorbance of a
         6.24×10^{-5}M solution of the complex at 470 nm in a 1.00 cm cell. What is the
         percent transmittance of the solution.

2. (a) Draw and explain double beam uv visible spectrophotometer.   10
   (b) What is Raman effect? Draw and explain Raman Spectroscopy.   10

3. (a) List four detectors used in Gas Chromatography and explain any one in detail.   10
   (b) Explain working of any one type of mass spectrometer in detail.   10

4. (a) Explain one type of source used in the uv-visible region of the EMR Spectrum.   5
   (b) Explain working of any one type of monochromator.   5
   (c) Explain the basic principle of NMR. Explain the working of a NMR Spectrometer. 10

5. (a) Draw and explain working of a x-ray absorption meter. muADDA.com   10
   (b) Explain the working of any one type of Ion Source used in mass spectrometer.   10

6. (a) Draw and explain working of Atomic Absorption spectrometer.   10
   (b) Draw and explain working of a carbondioxide analyzer.   10

MD-Con.-12061 -15

Course: T.E. (SEM.-VI) (REV. -2012) (CBSGS) (INSTRUMENTATION ENGG.) (Prog 6482)

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Correction:

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Q1(e) A solution...

.........absorptivity of 9.32×10^3 L mol-1 cm-1 at..........

6.24×10^{-5} mol per litre...

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Query Update time: 19/12/2015 03:55PM