

Hemchandracharya North Gujarat University, Patan

Bachelor of Vocation

Pharmaceutical Chemistry Semester - V

End Term Examination, December, 2016

PC 512 Advanced Analytical Chemistry - III

Time: 2 hrs

Date: 20/12/2016

Maximum marks: 50

Q.1 Answer any 9 questions. Each question carries 1 mark.

(9*1=9 Marks)

1. Define Fluorescence.
2. What is the full form of FTIR?
3. Name two methods for sample introduction in chemiluminescence?
4. Which radiation source is commonly used in AAS?
5. What is the role of a monochromator in UV spectrophotometer? Give names of monochromators used in UV?
6. With increase in wavelength, the energy will ____ (Increase/Decrease).
7. Give example of one flame and one oxidant used in AAS?
8. Which transition requires highest amount of energy?
9. The lifetime of phosphorescence is between ____ to ____ seconds.
10. What information is obtained from IR spectroscopy?

Q. 2 Answer any 5 questions. Each question carries 4 marks.

(5*4=20 Marks)

1. What are the different methods for sample preparation in IR spectroscopy?
2. Describe the instrumentation of FTIR?
3. Explain different types of electronic transitions taking place in UV spectroscopy?
4. Explain the instrumentation of Flame Atomic Absorption Spectrophotometer.
5. Give different applications of UV and IR spectroscopy?
6. Define Chemiluminescence. Which chemical reactions take place in chemiluminescence?

Q.3 Answer any 3 question. Each question carries 7 marks.

(3*7=21 Marks)

1. Write the statement of Lambert and Beer's law. Derive $A = \epsilon cl$.
2. Explain fluorescence and phosphorescence spectra with figure of a spectrum.
3. Describe complete instrumentation of a UV spectrophotometer with suitable figure?
4. Give complete information about different types of vibrations observed in IR spectroscopy?

-----BEST OF LUCK-----