Pramukh Swami Science & H.D. Patel Arts College, Kadi

Bachelor of Vocation Pharmaceutical Chemistry Semester- V

Internal Examination, ~~October~~ November-2018,

(PC 512) Advanced Analytical Chemistry-III

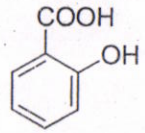
Time: 2 hours **16/11/2017** **Total Marks: 60**

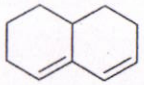
Que.1. Answer any 12 questions. Each question carries 1 mark [12]

1) Define Absorbance.
2) Give the range of IR Spectroscopy.
3) The detector used in IR spectroscopy is _____.
4) State Lambert's Law.
5) What is relation between the absorbance and transmittance?
6) What is the full form of ATR and FTIR?
7) The range of UV is _____ nm and range of visible region is _____.
8) IR spectroscopy gives information about number of protons in a sample. (True/False)
9) The number of vibrational modes for linear molecules and non-linear molecules are_____.
10) What is the function of detector?
11) Which transition requires higher energy than others?
12) Define Wavelength.
13) State any two Monochromator.

Que.2. Answer any five questions. Each question carries 4marks [20]

1) Write down the applications of UV spectroscopy.
2) Define (1) Bathochromic Shift (2) Hypsochromic shift (3) Hyperchromic shift (4) Hypochromic shift.
3) Calculate the λ_{max} for the following structures.





4) Explain principle and working of FTIR.
5) Discuss: (a) Prism and (b) grating monochromator?

Que.3. Answer any four questions. Each question carries 7 marks [28]

1) Explain electronic transition in detail.
2) Explain Lambert- beer's law. Derive $A = \varepsilon cx$.
3) Explain Instrumentation of UV spectroscopy.
4) Discuss about sample handling in detail.
5) Give applications of IR spectroscopy.