

Course No: PHRM 3222
Course Title: Pharmaceutical
Instrumental Analysis
Date: 27/11/2017
No. of Questions: (9)
Time: 1 hour
Using Calculator (Yes)

University of Palestine

2nd Midterm Exam
2017/2018
Total Grade:

Instructor Name: Sharief Mezyed
Student No.: _____
Student Name: _____
College Name: Pharmacy
Dep. / Specialist: _____
Using Dictionary (No)

Answer all of the following questions

1) Define each of the following:

- a) Sensitivity of analytical method
- b) Response in analytical method
- c) Transmittance T
- d) Optical spectroscopy.

2) Write four factors should take in consideration in the choice of an analytical method?

3) Calculate the frequency of radiation that has a wavelength of 500.0 nm? [Velocity of light = 3×10^8 m/s]

4) Arrange the following types of radiation in order of increasing wavelength: IR, radiowaves, X-rays, UV, and visible light.

5) Briefly describe three types of transitions that occur in most molecules, including the type of radiation involved in the transition.

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- 6) The absorbance of a 2.31×10^{-5} M solution of a compound is 0.822 at a wavelength of 266 nm in a 1.00-cm cell. Calculate the molar absorptivity at 266 nm.
- 7) Find the absorbance and transmittance of a 0.002 M solution of a substance with a molar absorptivity of $313 \text{ M}^{-1} \text{ cm}^{-1}$ in a cell with a 2.00-cm pathlength.
- 8) Write the common components of typical spectroscopic instruments. Including the role of each component.
- 9) Explain the difference between Continuum and Line Sources of radiation. Give examples (names) of lamps that are most used in UV region, Visible region, and Infrared region (one example of each is enough).

End of Questions
Good Luck