Hemchandracharya North Gujarat University, Patan
Master of Vocation
'Pharmaceutical Chemistry' Semester - I
END TERM Examination, January, 2019
Subject: Analytical Instrumental Techniques (MPC-101)

Time: 2:30 hrs **Date: 25/01/2019** **Maximum marks: 50**

Q.1 Answer any 9 questions. Each question carries 1 mark (9*1=9Marks)

1. Which of the following has a range of 100 nm to 200 nm among EM waves?
   (a) UV (b) IR
   (c) Visible light (d) X-Rays
2. _____ light is used in night vision.
3. Define Lambert's Law.
4. Match the following.

I	II
(a) Detection of conjugation	(P) IR spectroscopy
(b) Detection of Function Group	(Q) Atomic Absorption spectroscopy
(c) Detection of amount of metals	(R) UV-Visible

5. Assertion: KBr Pallets are used as refence in IR spectroscopy.
   Reason: KBr is inert in nature and will not show peak.
   (a)If both assertion and reason are true and the reason is the correct explanation of the assertion.
   (b)If both assertion and reason are true but reason is not the correct explanation of the assertion.
   (c)If assertion is true but reason is false.
   (d)If the assertion and reason both are false.
6. Which of the following type of luminescence is occurred
   (a) Chemiluminescence (b) Phosphorescence
   (c) Fluorescence (d) All
7. _____ is used in NMR as Reference.
8. What is nebulizer?
9. Match the following.

I	II
(a) Hallow cathode lamp	(P) IR spectroscopy
(b) Tungsten lamp	(Q) Atomic Absorption spectroscopy
(c) Beam Splitter	(R) UV-Visible

10. Define luminescence.

Q. 2 Answer any 5 questions. Each question carries 4 marks (5*4=20 Marks)

1. Write a note on TMS.
2. Write any 4 application of IR spectroscopy.
3. Write the different transitions in UV spectroscopy.
4. Explain the difference between Equivalent and Non-equivalent proton.
5. What is the principle of NMR?

Q.3 Answer any 3 questions. The question carries 07 marks (3*7=21 Marks)

1. Explain the instrumentation of UV spectroscopy.
2. Explain the Lambert-Beer Law.
3. Explain the instrumentation of FTIR in brief.
4. Explain the application of NMR.