

Rayat Shikshan Sanstha's
Rajarshi Chhatrapati Shahu College, Kolhapur
Department of Chemistry
B.Sc. Part-III (Physical Chemistry)
Unit Test ,Paper-XI, Sem.V

Day and Date: Monday 16 /9/2019

Total Marks: 20

Time: 12.0 to 1.0 pm

Q.1 Choose the correct alternative from the followings and rewrite the sentence. [5]

1) In vibrational spectra, the transition from $v=0$ to $v=1$ gives a very intense line.....

- a) Overtone band b) fundamental band c) dark line d) None of these

2) The distance between two nearest troughs or crests is known as.....

- a) frequency b) Wavelength c) wave number d) all of these

3) Rotational sub levels or quantum numbers are denoted by.....

- a) n b) E c) J d) v

4) For rotational transitions selection rule is.....

- a) $\Delta J = \pm 1$ b) $\Delta V = \pm 1$ c) $\Delta E = \pm 1$ d) none of these

5) Rotational spectra are observed in.....

- a) far infrared b) visible c) uv d) radiowave

Q.2. Answer any TWO of the following . [5]

- 1) Write a note on Electroluminescence
- 2) Explain reversible and irreversible reaction
- 3) Explain Stokes and anti-Stokes lines.

Q.3 Long Answer type questions (any one) [10]

- 1) Explain Jablonskii diagram showing different radiations.
- 2) Explain radiative and nonradiative transitions