Shree H.N.Shukla group of colleges

PHYSICS

T.Y.B.Sc. (Sem. VI) (CBCS)

Unit Test examination

PAPER- 603

UNIT - 2 : MOLECULAR & RAMAN SPECTRSOCOPY

DATE : **Total marks : 30**

Instructions: All questions are compulsory.
The right side figure indicates total marks of the question.
Draw the figure wherever necessary.
Write answers of all the questions in main answer sheets.

SECTION-A

Q.1: One marks questions: **[5 MARKS]**

1 Give the Raman shift equation.

2 Raman spectra are consisiting of which lines?

3 Raman effect is due to collision of _____.

4 Vibrational rotational spectra fall in which region ?

5 Which of the following does not exhibit a rotaional spectra?

SECTION – B

Q.2 (A): Short Questions: Write any three : [2 Marks each] **[6 MARKS]**

1 The exciting line in Raman spectra is 5480 A and stokes line is at 5530 A . Find out the Raman shift.

2 Explain quantom theory Raman spectra.

3 The exciting line in Raman spectra is 56890 A and stokes line is at 5420 A . Find out the Raman shift.

Q.2 (B) : Short questions: Write all three: [3 Marks each] **[9 MARKS]**

1 Give silent features of rotational vibrational spectra.

2 Give the difference between Raman and Fluroscence spectra.

3 What is raman effect? Explain it in detail.

Q.2 (C): Write Detail Note on [Any two]: [5 Marks each] **[10 MARKS]**

1 Explain pure rotational spectra.

2 Explain classical theory of Raman spectra .

3 Give the theory of rotational vibrational spectra.

4 Discuss electronic spectra in detail.