Week 5 Assignment

The due date for submitting this assignment is 2020-04-04, 22:09 IST.

1. The vibrational energy level associated with the lowest vibrational level is
   a) the actual number of electronic transitions
   b) the actual number of nuclear transitions
   c) the total energy of the molecule
   d) the energy of the molecule
   e) the energy of the molecule and the vibrational level
   1 point

2. For the following transitions, determine the type of transition:
   a) the transition is a combination transition
   b) the transition is a difference transition
   c) the transition is a vibration transition
   d) the transition is a rotation transition
   e) the transition is a vibrational transition
   1 point

3. The electric-dipole selection rule is a) the transition is a vibration transition
   b) the transition is a difference transition
   c) the transition is a combination transition
   d) the transition is a rotation transition
   e) the transition is a vibration transition
   1 point

4. The non-vibrational energy of a molecule is a) the electric-dipole selection rule
   b) the difference between the energy of the molecule and the vibrational level
   c) the total energy of the molecule
   d) the transition is a difference transition
   e) the electric-dipole selection rule
   2 points

5. The non-vibrational energy of a molecule is a) the difference between the energy of the molecule and the vibrational level
   b) the transition is a difference transition
   c) the transition is a combination transition
   d) the transition is a rotation transition
   e) the electric-dipole selection rule
   2 points

6. For the following transitions, determine the type of transition:
   a) the transition is a combination transition
   b) the transition is a difference transition
   c) the transition is a vibration transition
   d) the transition is a rotation transition
   e) the transition is a vibrational transition
   1 point

7. For the following transitions, determine the type of transition:
   a) the transition is a combination transition
   b) the transition is a difference transition
   c) the transition is a vibration transition
   d) the transition is a rotation transition
   e) the transition is a vibrational transition
   1 point

8. For the following transitions, determine the type of transition:
   a) the transition is a combination transition
   b) the transition is a difference transition
   c) the transition is a vibration transition
   d) the transition is a rotation transition
   e) the transition is a vibrational transition
   1 point

9. For the following transitions, determine the type of transition:
   a) the transition is a combination transition
   b) the transition is a difference transition
   c) the transition is a vibration transition
   d) the transition is a rotation transition
   e) the transition is a vibrational transition
   1 point

10. The non-vibrational energy of a molecule is a) the difference between the energy of the molecule and the vibrational level
    b) the transition is a difference transition
    c) the transition is a combination transition
    d) the transition is a rotation transition
    e) the electric-dipole selection rule
    1 point

11. The electric-dipole selection rule is a) the transition is a combination transition
    b) the transition is a difference transition
    c) the transition is a vibration transition
    d) the transition is a rotation transition
    e) the electric-dipole selection rule
    1 point

12. The non-vibrational energy of a molecule is a) the difference between the energy of the molecule and the vibrational level
    b) the transition is a difference transition
    c) the transition is a combination transition
    d) the transition is a rotation transition
    e) the electric-dipole selection rule
    1 point

13. The electric-dipole selection rule is a) the transition is a combination transition
    b) the transition is a difference transition
    c) the transition is a vibration transition
    d) the transition is a rotation transition
    e) the electric-dipole selection rule
    1 point

14. The non-vibrational energy of a molecule is a) the difference between the energy of the molecule and the vibrational level
    b) the transition is a difference transition
    c) the transition is a combination transition
    d) the transition is a rotation transition
    e) the electric-dipole selection rule
    1 point

15. The electric-dipole selection rule is a) the transition is a combination transition
    b) the transition is a difference transition
    c) the transition is a vibration transition
    d) the transition is a rotation transition
    e) the electric-dipole selection rule
    1 point