Assignment 2

The due date for submitting this assignment has passed.
As per our records you have not submitted this assignment.

1) List down all the symmetry elements present in T3m & T4m. 1 point
   - E, C3, 3C, 3C2
   - E, 2C3, m
   - C3v, 3C2v, 3C
   - C3, i
   No, the answer is incorrect. Score: 0
   Accepted Answers:
   - E, C3, 3C, 3C2

2) How many independent symmetry operations are created by an improper axis of rotation of order five in a given molecule? 1 point
   - Ten
   - Twenty
   - Eleven
   - Five
   No, the answer is incorrect. Score: 0
   Accepted Answers:
   - Ten

3) Fill in the blanks. Symmetry point group can be defined as a complete set of symmetry ________ of a molecule 1 point
   - Non-redundant, Elements
   - Proper, Elements
   - Accurate, Operations
   - Non-redundant, Elements
   No, the answer is incorrect. Score: 0
   Accepted Answers:
   - Non-redundant, Elements

4) For an improper axis of rotation to exist independently, the minimum order of the axis must be: 1 point
   - Two
   - Three
   - Four
   - Infinity
   No, the answer is incorrect. Score: 0
   Accepted Answers:
   - Two

5) The existence of two symmetry elements present in a molecule may require the presence of a third symmetry element. 1 point
   - False
   - True
   No, the answer is incorrect. Score: 0
   Accepted Answers:
   - True

6) The list of symmetry operations present in an octahedral complex AB6 is given by: 1 point
   - E, 3C3, 3C, 3C2, 3C2, 3C2, 3C2
   - E, 3C3, 3C, 3C2, 3C, 3C2, 3C2
   - E, 3C3, 3C, 3C2, 3C, 3C, 3C2
   - E, 3C3, 3C, 3C2, 3C, 3C2, 3C2
   No, the answer is incorrect. Score: 0
   Accepted Answers:
   - E, 3C3, 3C, 3C2, 3C, 3C2, 3C2

7) If we have two C2 perpendicular to each other in a molecule, there must exist a ________ 1 point
   - a symmetry plane
   - an inversion center
   - a third C2 perpendicular to the two C2 axes
   - an S2 axis perpendicular to the two C2 axes
   No, the answer is incorrect. Score: 0
   Accepted Answers:
   - a third C2 perpendicular to the two C2 axes

8) In the trigonal planar BF3 molecule, C2 and C2' are ________ each other. 1 point
   - perpendicular to
   - in the same plane as
   - in the same plane and parallel to
   - a symmetry plane
   No, the answer is incorrect. Score: 0
   Accepted Answers:
   - in the same plane and parallel to

9) The product of symmetry operations A2 and C3 in the trigonal planar BF3 molecule is equivalent to the symmetry operation: (The three fluorine atoms F1, F2, and F3 are arranged in clockwise order) 1 point
   - A2
   - C3
   - A2C3
   - None of these
   No, the answer is incorrect. Score: 0
   Accepted Answers:
   - None of these

10) How do you verify if a given set of symmetry operations is the complete set present in the molecule? 1 point
   - By performing all possible multiplications of the given symmetry operations
   - By finding inverses to all of the given symmetry operations
   - Resuming the given set of symmetry operations is a complete set
   - Cannot be determined
   No, the answer is incorrect. Score: 0
   Accepted Answers:
   - By performing all possible multiplications of the given symmetry operations