



THE ANSWERS MUST BE ATTEMPTED ON THE ANSWER SHEET PROVIDED

Q.1. Answer the following short questions: (15x2=30)

- i. Predict shape of SO_2 on the basis of VSEPR model/theory.
- ii. How methyl orange changes color when pH is changed?
- iii. Sketch the structure of phenolphthalein.
- iv. Write two uses of chelates?
- v. Phenolphthalein is a weak acid. How does it change color when medium becomes basic?
- vi. What is leveling effect?
- vii. Define the term electronegativity.
- viii. How does CFT is superior to VBT?
- ix. Differentiate between Lewis acid and base
- x. What are outer transition elements?
- xi. Why polarizability increases down the group?
- xii. What is Pauling scale for electronegativity?
- xiii. Bi-S bond is relatively more stable than Bi-N bond. Give reason on the basis of HSAB concept.
- xiv. What is the main failure of CFT?
- xv. Which of the following is more soft acid and why
 - i. Na
 - ii. K

Answer the following questions. (3x10=30)

- Q.2** What is isomerism? Discuss different types of isomerism in coordination compounds
- Q.3** What is diagonal relationship? Discuss it with suitable examples
- Q.4** Explain the term Lewis acid and base in the light of Lewis acid base concept. Also describe some limitations of this concept.