

ATTEMPT ALL THE QUESTIONS (100%)

1. Briefly discuss what you understand by the following terms as are used in molecular modelling and drug designing: **(10 Marks)**
 - a. Molecular modelling
 - b. Quantum mechanic
 - c. Energy optimization
 - d. Pro-drug
 - e. Pharmacokinetics
2. Briefly discuss the three stages of molecular modelling. **(15 Marks)**
3. Electrostatic interactions arise from changes in charge of distribution of a molecule or atom caused by an external field a process called polarisation. Discuss. **(20 Marks)**
4. State three classifications and seven advantages of pro-drugs **(20 Marks)**
5. Briefly discuss four effects of local anaesthetics **(10 Marks)**
6. Briefly discuss the process of drug excretion **(10 Marks)**
7. What do you understand by the term pharmacophore? **(5 Marks)**

8. Virtual screening (also referred to as *silico screening*) is a relatively new approach to library testing. Briefly discuss the process **(10 Marks)**