

Answer the following questions (10 points/each question):

1. Explain the chemical mechanism of sulfamethazole and trimethoprim in antibacterial action.
2. Some penicillins are unstable in gastric pH. What is the degradation reaction of penicillin G in low pH?
3. Explain what are the phase I and phase II in drug metabolism.
4. What is the so called "NIH shift" in drug metabolism?
5. What is the action mechanism of 5-fluorouracil?
6. Give a synthetic pathway from diosgenin to progesterone.
7. Why is lidocaine more stable than procaine in physiological fluids?
8. Give 3 possible modifications of morphine structure which will increase the analgesic activity.
9. What is the use and chemical mechanism of d-penicillamine?
10. What is the action mechanism of levodopa and carbidopa in anti-parkinsonism?