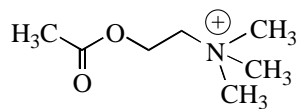
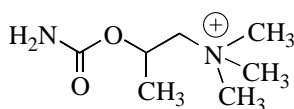


I. Why is Bethanechol a more potent and more selective cholinergic drug than Acetylcholine ? (10%)

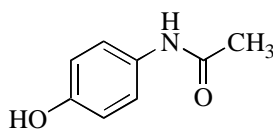


Acetylcholine



Bethanechol

II. Acetaminophen (Tylenol) is a safe drug. However, in the case of overdose, it becomes hepatotoxic. Give your explanation. (10%)

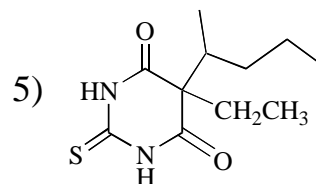
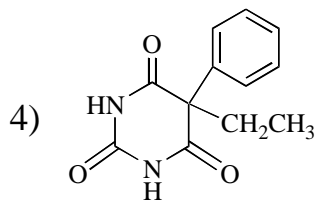
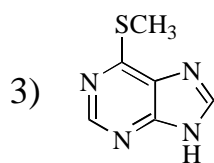
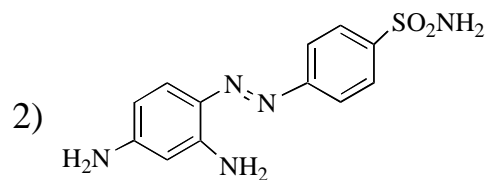
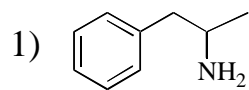


Acetaminophen

III. Explain the following terms briefly. (20%)

1. *M* Phase
2. CYP3A4
3. DNA Gyrase
4. Transpeptidase
5. Isosteric isomers
6. COX-2
7. Adenyl cyclase
8. Phosphoribosylamine synthetase
9. Angiotensin II
10. Phosphodiesterase (PDE)

IV. Give structures of major metabolites (Phase 1 biotransformations only) for each of the following drugs: (20%)



V. Explain the pharmacological mechanism and clinical use of the following drugs. (40%)

1. Omeprazole
2. Cimetidine
3. Ciprofloxacin
4. Paclitaxel
5. Lidocaine
6. Doxorubicin
7. Lovastatin
8. Nevirapine
9. Captopril
10. Saquinavir