Part I: Mark the right answer, and remember that you have to choose the best answer.

1. Referring to Figure 1:
   a) Drug A has more efficacy than drug B
   b) Drug A has less efficacy than drug B
   ✔ c) Drug A has more potency than drug B
   d) Drug A has less potency than drug B

2. Pindolol is a β-adrenoceptor
   a) agonist
   b) inverse agonist
   ✔ c) partial agonist
   d) antagonist

3. Drugs which bind through weak bonds to their receptors are generally
   a) more selective than drugs which bind through very strong bonds.
   ✔ b) less selective than drugs which bind through very strong bonds.
   c) equal in selectivity as those that bind through very strong bonds
   d) none of the above

4. Nicotinic ACh receptor is an example of
   a) kinase-linked receptors
   b) ligand-gated ion channels
   ✔ c) nuclear receptors
   d) G-protein-coupled receptors

5. Agonist stimulation of Gs G-protein-coupled receptor will
   a) activate adenyl cyclase
   ✔ b) inhibit adenyl cyclase
   c) activate phospholipase C
   d) inhibit phospholipase C
6. The action of the choline transporter is the rate-limiting step in ACh synthesis. This transporter can be blocked by
   a) botulinum toxin  ✔ b) hemicholiniums
   c) choline acetyltransferase  d) vesamicol

7. Atropine is a
   ✔ a) nonselective muscarinic antagonist  b) cholinomimetic drug
   c) sympathomimetic drug  d) sympatholytic drug

Part II:

Mark A if the statement is True, or B if it is False

8. The study of the action or effects of drugs on living organisms is called pharmacokinetics. B

9. Receptor for which no ligand has been discovered and whose function can only be presumed is called an orphan receptor. A

10. Drug inhibition by a competitive reversible antagonist can be overcome by increasing agonist concentration, whereas inhibition by a competitive irreversible antagonist can not be overcome by increasing agonist concentration. A

11. In the presence of irreversible antagonist, the agonist maximal response will not change. B

12. In the presence of an agonist (efficacy value is positive) or an inverse agonist (efficacy value is negative), the antagonist (efficacy is zero) restores the system towards the constitutive level of activity. A

13. Adapter proteins, such as GRB2, contain various protein-binding motifs that promote the formation of multiprotein signaling complexes. A

14. The somatic neuron consists of a single neuron between CNS and skeletal-muscle cell. A