This section has 10 questions. Please select a letter that best matches the answer.

1. Circle the systematic name of the following steroid. (3 pts)

A: $3\beta,7\beta,12\beta$-trihydroxy-19-nor-5$\alpha$-cholan-24-oic acid
B: $3\alpha,7\alpha,12\alpha$-trihydroxy-19-nor-5$\beta$-cholan-24-oic acid
C: $3\beta,7\beta,12\beta$-trihydroxy-5$\alpha$-cholan-24-oic acid
D: $3\alpha,7\alpha,12\alpha$-trihydroxy-5$\beta$-cholan-24-oic acid

2. Draw the structure of the following steroid showing its stereochemistry and substitution pattern. estr-1,3,5-triene-3,17$\beta$-diol (3 pts)

3. The protein biosynthesized in our body due to the binding of hydrocortisone to its receptor is (4 pts)
   A: apolipoprotein A1
   B: lipocortin
   C: HMG CoA reductase
   D: phospholipase A2

4. Inhibition of $\alpha$-glucosidase enzyme in the GI tract is the primary mechanism of (4 pts)
   A: mevastatin
   B: cholesteryamine
   C: niacin
   D: acarbose

5. Circle molecule(s) from below that are expected to possess anti-estrogenic activity (antagonist). Please note: -2 points for every wrong answer circled. (4 pts)

6. A person may not respond to statin therapy because (3 pts)
   A: he possesses a dysfunctional cholesterol biosynthesis gene
   B: he possesses a dysfunctional LRP gene
   C: he possesses a dysfunctional LDL-R gene
   D: none of the above
7. The mechanism of steroid hormone action requires (3 pts)
   A: the dimerization of the steroid – receptor complex in the nucleus
   B: the internalization of hormone response element in the nucleus
   C: the dimerization of hormone response element in the nucleus
   D: all of the above

8. The major reason why troglitazone possesses considerable hepatic toxicity is (3 pts)
   A: one of its metabolite possess a highly reactive quinone group
   B: one of its metabolite possess a highly reactive carboxylic acid group
   C: one of its metabolite possess a highly reactive pyridine group
   D: none of the above

9. A drug class that is particularly helpful in maintaining an anti-hyperglycemic state, rather than a hypoglycemic state, is (3 pts)
   A: the sulfonyl ureas
   B: the glitazones
   C: the biguanides
   D: all of the above

10. Identify the primary biologic activity of the following drugs from the choices below. You may skip a letter or use a letter more than once. (24 points)

A: anti-hyperlipidemic
B: androgen agonist
C: androgen antagonist
D: estrogen agonist
E: estrogen antagonist
F: progesterone agonist
G: progesterone antagonist
H: mineralocorticoid
I: anti—inflammatory
J: oralhypoglycemic
K: None of the above