

**SCHOOL OF PHARMACY  
VIRGINIA COMMONWEALTH UNIVERSITY  
MEDC 603**

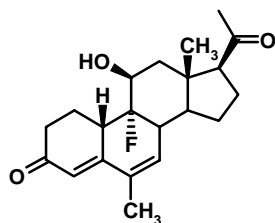
Examination III  
Dr. Desai's Part

Fall 2005

Name \_\_\_\_\_ Pledge \_\_\_\_\_  
(Signature)

*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: 6-methyl-9 $\beta$ -fluoro-11 $\beta$ -hydroxy-19-nor-pregn-4,6-diene-3,20-dione  
 B: 6-methyl-9 $\alpha$ -fluoro-11 $\beta$ -hydroxy-pregn-4,6-diene-3,20-dione  
 C: 6-methyl-9 $\alpha$ -fluoro-11 $\beta$ -hydroxy-19-nor-pregn-4,6-diene-3,20-dione  
 D: 6-methyl-9 $\alpha$ -fluoro-11 $\beta$ -hydroxy-19-nor-androst-4,6-diene-3,20-dione

2. Draw the structure of the following steroid showing its stereochemistry and substitution pattern.  
**6,16 $\beta$ -dimethyl-estr-1,3,5,6-tetraene-3,17 $\beta$ -diol** (3 pts)

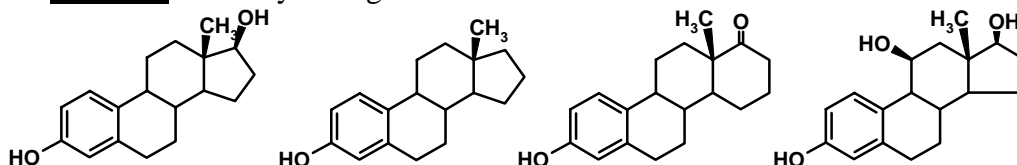
3. A key step, targeted by statins, in cholesterol biosynthesis is (4 pts)

- A: synthesis of acetyl-Coenzyme A  
 B: synthesis of mevalonate  
 C: synthesis of 3-hydroxy-3-methyl-glutaryl Coenzyme A  
 D: none of the above

4. Inhibition of bile re-absorption from the GI tract is the primary mechanism of (4 pts)

- A: mevastatin  
 B: metformin  
 C: nicotinic acid  
 D: colestipol

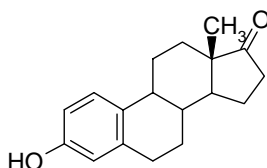
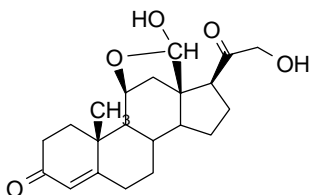
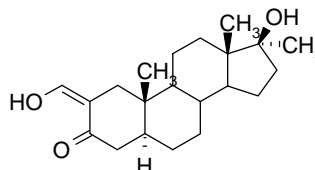
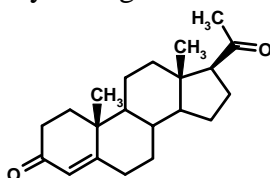
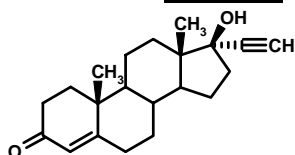
5. Circle molecule(s) from below that are expected to possess anti-estrogenic activity (antagonist).  
 Please note: **-2 points** for every wrong answer circled. (4 pts)



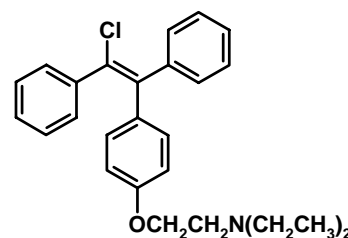
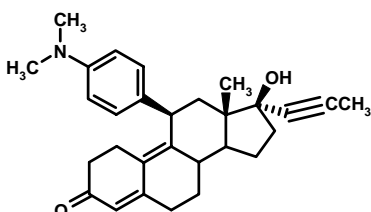
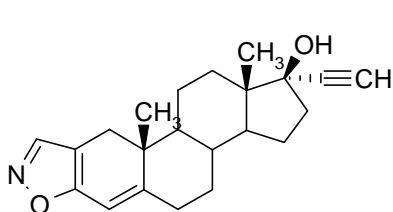
6. Lipoprotein particles are (3 pts)
- A: aggregates of lipoproteins, triglycerides, cholesterol and cholesteryl esters
  - B: the main target of all cholesterol reducing therapies
  - C: synthesized and metabolized in the liver
  - D: all of the above

7. The mechanism of steroid hormone action requires (3 pts)
- A: the dimerization of the steroid – receptor complex
  - B: the internalization of hormone response element
  - C: the dimerization of hormone response element.
  - D: none of the above

8. Circle orally active steroid hormone(s) from the following synthetic compounds. Please note: **-2 points** for every wrong answer circled. (6 pts)



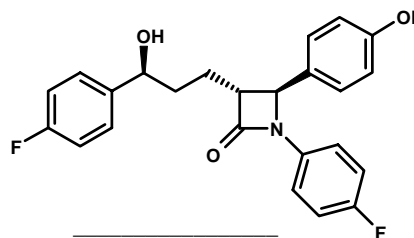
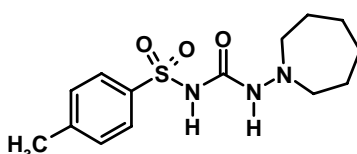
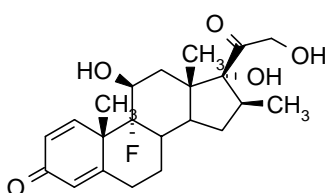
10. Identify the primary biologic activity of the following drugs from the choices below. You may skip a letter or use a letter more than once. (24 points)



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\_\_\_\_\_

\_\_\_\_\_



\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

- A: anti-hyperlipidemic
- B: androgen agonist
- C: androgen antagonist
- D: estrogen agonist
- E: estrogen antagonist
- F: progestational
- G: progesterone antagonist

- H: mineralocorticoid
- I: anti-inflammatory
- J: oral hypoglycemic
- K: None of the above