

NAME: _____

UFID: _____

PHA 5127

Second Exam

Fall 2006

On my honor, I have neither given nor received unauthorized aid in doing this assignment.

Name

Put all answers on the bubble sheet

TOTAL _____/160 pts

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Question Set I (True or False)

(25 points)

True (A) or False (B). On the bubble sheet mark *A* for true or *B* for false

Mark whether the following statements as true or false for **drug A**, which is cleared only by hepatic metabolism and has a CL_{tot} of 80 L/h

- 1: T **F** This drug is a low extraction drug
- 2: **T** F The clearance of another drug eliminated only by the kidney (only filtered not re-absorbed) will be smaller than that of Drug A
- 3: **T** F The oral bioavailability of this drug will be significantly smaller than 80%
- 4: **T** F The oral bioavailability will depend on liver blood flow
- 5: T **F** Drug C, known to induce enzymes also responsible for metabolism of Drug A will significantly affect the clearance of Drug A

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Question Set II

(15 points)

Imagine a high extraction drug that is only eliminated via hepatic metabolism. Two patients have been injected with the same dose of this drug. They show the following pharmacokinetic properties

| | | |
|---------------------------------|-------------|------|
| C_{\max} [$\mu\text{g/ml}$] | 0.18 | 0.18 |
| K_e [1/h] | 0.55 | 0.73 |
| V_d [L] | 108 | 108 |
| CL [L/h] | 56 | 80 |
| F (%) | 6 | 1 |

- 6: A list of physiological parameter is shown below. Identify **the one** physiological parameter that would explain **all differences** in above pharmacokinetic parameters

| | |
|-----------|------------------------------------|
| A. | <i>Parameter-</i> GFR |
| B. | f_u |
| C. | f_{ut} |
| D. | Q_{hep} |
| E. | Cl_{int} |