Foreign Pharmacy Graduate Equivalency Examination (FPGEE)

1. In a zero order elimination process, which of the following is true?

A. The removal of drug is independent of drug concentration

B. Cl = Elimination rate/Cp

C. t1/2 = .7VD/Cl

D. All are true

Answer(s): A

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2. For highly polar drugs (e.g. mannitol) what primarily determines elimination rate?

A. Excretion rate

B. Metabolism rate

C. Absorption rate

D. Distribution rate

E. All of the above

Answer(s): A

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3. Bioavailability is related to which of the following parameters, according to the equation
F = 1 - E

A. Excretion

B. Elimination

C. Extraction Ratio

D. Enterohepatic Recycling

Answer(s): C

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4. For the majority of drugs, which of the following equations correctly defines clearance?

A. Cl = Elimination rate/Cp

B. Cl = QxE

C. Cl = .7VD/t1/2

D. All are correct

Answer(s): D

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5. How much of a 10 mg dose of morphine reaches the systemic circulation given F = .24?

A. 24mg

B. 0.24 mg

C. 2.4 mg

D. 4.1 mg

Answer(s): C

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6. Given that the VD = 230 L/70Kg and Cl = 60 L/hr/70 Kg for morphine, approximately how much of a 10 mg IV dose remains after 8 hr, given to a normal 70 Kg patient?

A. 5 mg

B. 2.5 mg

C. 1.25 mg

D. 625 mg

Answer(s): C

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7. Given F = .24, what is the overall hepatic clearance of morphine if the above patient has portal hypertension such that their hepatic blood flow is reduced by ½? Assume the clearance value given in the previous question is entirely hepatic clearance.

A. 30 L/hr/70 Kg

B. 60 L/hr/70 Kg

C. 120 L/hr/70 Kg

D. 250 L/hr/70 Kg

Answer(s): A

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8. Which of the following enzymes could directly act on codeine?

A. Glucuronyl transferase

B. Sulfotransferase

C. Glutathione transferase

D. A & B

E. All of the above

Answer(s): D

9. Which Cytochrome P450 isozyme does not participate appreciably in drug metabolism?

A. CYP1A2

B. CYP2C9

C. CYP3A4

D. CYP51

E. All are drug metabolizing isoforms

Answer(s): D

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10. Which of the following Cytochrome P450 isozymes is responsible for the bulk of phase I metabolism?

A. CYP1A2

B. CYP2C9

C. CYP2D6

D. CYP3A4

E. CYP51

Answer(s): E

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11. Which of the following enzymes could metabolize ethanol?

A. Cytochrome P450

B. Alcohol Dehydrogenase

C. Glucuronyl Transferase

D. Sulfotransferase

E. All of the above

Answer(s): E

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12. Which of the following are similarities between Cytochrome P450 and MAO?

A. Both add oxygen from O2 to substrates and also form water

B. Both carry out direct heteroatom oxidations

C. Both carry out oxidative deaminations

D. Both carry out N-dealkylations

E. All of the above

Answer(s): C

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13. What would be the preferred route of metabolism of succinyl choline?

A. Ester hydrolysis

B. N-oxidation

C. Glucuronide conjugation

D. A & B

E. All of the above

Answer(s): C

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14. Which of the following causes the smallest change in solubility?

A. Hydroxylation

B. Glucuronidation

C. Sulfation

D. Glutathione conjugation

Answer(s): A

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15. Cigarette smoke causes an increase in levels of CYP1A isozymes. Theophylline is primarily metabolized by the CYP1A system. What would happen to theophylline clearance for an asthmatic patient in hospital who could not smoke?

A. No change

B. Increase

C. Decrease

Answer(s): C

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16. Which of the following is the antidote for the toxin Benzodiazepines?

A. Flumazenil

B. Methylene blue

C. Deferoxamine

D. Alkalinize urine

Answer(s): A

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17. Which of the following is the antidote for the toxin Lead?

A. Naloxone

B. Nitrite

C. CaEDTA

D. Dialysis

Answer(s): C

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18. Which of the following is the primary site of activity for the drug Warfarin?

A. Kidney

B. Liver

C. Blood

D. Heart

Answer(s): B

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19. Lansoprazole is not used in which of the following cases?

A. Gastritis

B. Peptic Ulcers

C. Zollinger-Ellison syndrome

D. Thalamus hypertrophy

Answer(s): D

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20. Which of the following drugs is associated with the reaction of Cinchonism?

A. Valproic acid

B. Quinidine

C. Isoniazid

D. Ethosuximide

Answer(s): B
