Please find below the correct answers to the 2018 Academy Seminars individual learning assessment questionnaire:

1. To calculate the loading dose (LD) we need to know:
a) Rate of absorption (Ka)
b) Rate of elimination (Kel)
c) Volume of distribution (Vd)
d) Area Under the Curve (AUC)

2. To calculate the maintenance dose (MD) we need to know:
a) Time to reach the steady state (Tss)
b) Volume of distribution (Vd)
c) Clearance (CL)
d) Rate of absorption (Ka)

3. If half life is 8 hours how long it takes to reach the steady state?
a) 16 hours
b) 24 hours
c) 40 hours
d) 48 hours

4. Indicate one of the main advantages of chromatographic methods over immunoassays.
• Low sample volume
• Less time of analysis
• Less cost
• More sensitivity
• Minimum sample preparation

5. Which of the following answers is false?
• Linear regression methods allow predictions of future concentrations with high reliability
• Bayesian methods should be used after validating the PK population models
• Non-linear regression methods need computers for their use

6. In pharmacotherapy, what is the inappropriate use of pharmacogenomics?
• Select the start dose for some drugs
• Select the appropiate drug in some type of cáncer
• Useful to adjust dose for some drugs
• Useful to control toxicity

7. Blood/plasma sampling for TDM should always be done as a peak and trough level.
YES/NO

8. The best method of calculation of pharmacokinetic parameters is by using:
o 1. The least squares method according to Sawchuck and Zaske
o 2. The MAP Bayesian approach
o 3. Standard two stage

9. The therapeutic range of a drug is a fixed value particular to that specific drug
YES/NO

10. What is the most important PK parameter for the first dose of an antibiotic?
• Clearance
• Volume of distribution

11. How long is the Post Antibiotic Effect or Post MIC Effect of an aminoglycoside?
• 2 hours
• 7 hours

12. A flucloxacillin serum concentration of 40 mg/L is enough to treat an infection with a micro-organism that has a MIC value of 2 mg/L
YES/NO   (flucloxacillin is 95% protein bound and thus the free concentration is 2 mg/L. Optimal effect is seen at 4x the MIC = 8 mg/L)

13. After initialization of antiepileptic drug treatment blood concentrations should be measured after achievement of steady state which is attained by about 90% after 4 elimination half lives?
YES/NO

14. An indication to request TDM for typical antipsychotic drugs is weight gain due to supratherapeutic drug concentrations.
YES/NO

15. Smoking may affect the clearance of drugs by inducing drug metabolizing enzymes, especially CYP1A2. After smoking cessation the induced status "normalizes" within
a) three days
b) three weeks
c) three months

16. Will TDM software tools improve the effectiveness of a TDM service?
YES/NO

17. Do modern TDM tools require steady state conditions for valid analysis and forecasts?
YES/NO

18. What is the benefit of Bayesian dose calculation?
a. Allows a reduced number of samples
b. The most likely result is obtained
c. The results are less biased

19. The AUC is the best predictor of efficacy and/or toxicity for immunosuppressive and oncolytic agents
TRUE/FALSE

20. Please choose the correct statement(s):
Statement 1: Immunosuppressive agents can cause malignancies
Statement 2: Immunosuppressive agents can be used as oncolytic agents
a) Statements 1 and 2 are true
b) Statements 1 and 2 are false
c) 1 is true and 2 is false
d) 2 is true and 1 is false

21. PGx (pharmacogenetics) is related to clinical outcomes in transplantation.
TRUE/FALSE

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