LOYOLA COLLEGE (AUTONOMOUS), CHENNAI – 600 034

M.Sc. DEGREE EXAMINATION – **MEDICAL LAB TECHNOLOGY**

THIRD SEMESTER – **NOVEMBER 2018**

16/17PML3ES02 – FORENSIC SCIENCE AND TOXICOLOGY

Date: 29-10-2018 Dept. No. Max. : 100 Marks
Time: 09:00-12:00

Answer ALL the questions PART- A (10 × 2=20 Marks)

1. What are the different types of absorption?
2. Define DNA microarray?
3. Write the factors affecting the distribution of a drug.
4. A drug with half life of 12 hours was given as intravenous injection to a patient, if the initial plasma concentration 500mg/ml at 10 pm, what will be the drug plasma concentration at 10 am on next day.
5. Define biotransformation.
6. Differentiate alpha from beta radioactive decay.
7. Write a note on SNP.
8. What is DNA typing? Add a note on the molecular markers of DNA typing.
9. Define radioactive isotopes.
10. What are the techniques used to identify drug metabolites?

Answer any FOUR of the following PART- B (4 × 10 =40 Marks)

11. Define CODIS and explain in detail the CODIS protocol.
12. Write briefly on ethical issues and limitations of DNA Profiling.
13. Explain in detail about RFLP analysis and its applications.
14. Write a detailed note on working principle of alcohol breath analyzer.
15. Briefly explain the different phases and factors affecting drug metabolism.
16. Write in detail the pharmacokinetics of ethanol.

Answer any TWO of the following PART- C (2 × 20=40 Marks)

17. Explain in detail the collection, transportation and preservation of fatal and non fatal samples in forensics.
18. Write a detailed note on the applications of DNA profiling in various fields.
19. Define STR analysis. Write the types and detailed procedure of STR analysis.
20. Explain the source of radiation and in detail explain the handling and disposal of tissue containing radioactive materials.

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