

Examination: BSc (Toxicology), Semester-II (2024)

Paper No: BTX-DSC201

Paper Title: Methods of Toxicity Testing

Date of Examination: 07/08/2024

Time:2.5 h

Marks:60

Section -A : Very short type Questions (1X20)

- Q. 1 What is the periodicity of an Acute, Sub-acute toxicity and Sub-chronic Toxicity study ?
- Q. 2 : The most rapid exposure to a chemical occurs through which of the following routes :
- a. Oral b. Dermal c. Intramuscular d. Subcutaneous e. Inhalation
- Q. 3 : Which bacterial strain is used in used in AMES Test
- a. *Escherichia coli* b. *Salmonella typhimurium*
c. *Klebsiella pneumoniae* d. *Staphylococcus aureus*
- Q. 4 : Which of the following are tools used in risk analysis?
- a. Toxicology b. Epidemiology
c. Clinical trial d. All of the above.
- Q. 5 : The *in vivo* micronucleus test is often used in a standard battery of genetic toxicity assays. In this test, what do the observed micronuclei represent?
- a. Pyknotic nuclei from cells with decreased cytoplasmic to nuclear ratios
b. Clumps of ribosomes and associated RNA fragments
c. Membrane-bounded structures that contain chromosomal fragments or whole chromosomes
d. Binucleated remnants of germ cell
- Q. 6 : What is the Basis of Calculating LD₅₀ ?
- Q. 7 : Write the full forms of
- a. OECD, b. QSAR
- Q. 8 What is the full form of the following:
- a. NOAEL b. MTT
- Q.9. Which of the following is NOT an initiating event in carcinogenesis?
- a. DNA adduct formation
b. DNA strand breakage
c. mutation of proto-oncogenes
d. oxidative damage of DNA
e. mitogenesis
- Q.10. Guinea pig maximization test is done to confirm-----
- Q.11: -----Toxin affects the entire body whereas -----toxin affects only specific organ.
- Q. 12. Usage of thalidomide by pregnant women for treating morning sickness led to -----
-----condition in the children.

- Q. 13. Actual amount of the exposed dose that enters the body is-----.
- Q. 14. Effective dose to achieve desired therapeutic effect in 50% of subjects in vivo is -----.
- Q. 15. Karbers method is used to assess-----
- Q. 16. Picogram is equal to-----
- Q. 17. Ratio of maximum tolerance to minimum curative dose is -----
- Q. 18. The most commonly used assay where minimum biological alterations are done for toxicity testing is-----
- Q. 19. Highly effective dosing of injection through which drug directly comes to blood is-----
- Q. 20. OECD test guideline 403 is for-----

Section : B Short Type questions Attempt any 4

(4x5)

Q. 1 Write full forms, sources, and use of the following cell lines: HuH7, HeLa, HK-2, Hep G2, RPTEC/TERT1.

Q. 2 Describe with diagram the dose response relationship.

Q. 3: Differentiate in vitro and ex vivo models of toxicity assessment.

Q. 4 : What is the difference between Primary cell culture, Secondary cell culture and cell line? Give two examples for each.

Q. 5 : Describe briefly the following :

- a. Toxin
- b. Toxicant
- c. Toxicity

SECTION : C Long type Questions Attempt any 2 (2x10)

Q. 1 : Describe briefly about Toxicodynamic, and the various studies required to conduct Toxicodynamic?

Q. 2: Describe various in-vitro genotoxicity studies meant for toxicity assessment?

Q. 3 : In which animal is Acute skin sensitization and Eye irritation performed? Describe any one method.

Q. 4: What are the different methods by which we can perform Acute toxicity study as per OECD guidelines? Describe any one of them.