

## Section 3 Final Evaluation

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1. \_\_\_\_\_ is a method used in analyzing base substitution mutation resulting from single nucleotide polymorphism.

- Micronucleus assay
- Chromosome aberration study
- Allele-Specific PCR
- Chromatography

**Answer**

Allele-Specific PCR

2. Proteomic assay analyzes the effect of toxicants in cellular toxicity signaling pathways or mechanisms through:

- Immunofluorescence
- Immunoblot
- Immunoprecipitation
- All of the above

**Answer**

All of the above

3. In Ladder Assay, fragmented DNA can be separated by agarose gel electrophoresis and can be visualized as “ladder” by \_\_\_\_\_ staining.

- Ethidium bromide
- Eosin
- Gram
- Wright's

**Answer**

Ethidium bromide

4. Trisomy is a form of aneuploidy interpreted as:

- Single missing chromosome from diploid set.
- Three copies of a single chromosome from a diploid set
- Three copies of a single chromosome from a triploid set
- Single missing chromosome from a triploid set

**Answer**

Three copies of a single chromosome from a diploid set

5. Gene mutations in which a single base nucleotide is replaced by another nucleotide are known as:

- Frame shift
- Quantitative change in nucleotide
- Qualitative change in nucleotide
- Left shift

**Answer**

Qualitative change in nucleotide

**6. Some structural chromosomal aberrations caused by genotoxic chemicals in cytogenetic assays of mammalian cells include the following EXCEPT:**

- Dicentric Chromosomes
- Ring Chromosomes
- Spiral Chromosomes
- Chromosome breaks

**Answer**

Spiral Chromosomes

**7. Structural changes in chromosomes include the following EXCEPT:**

- Aneuploidy
- Inversion
- Translocation
- Deletion

**Answer**

Aneuploidy

**8. Addition or deletion of nucleotides in the DNA sequence results in the change of the entire DNA or amino acid sequence. This process is known as:**

- Frame shift
- Base-pair substitution mutation
- Qualitative change in nucleotide
- Right shift

**Answer**

Frame shift

**9. In Allele-Specific PCR, fluorescent reporter probes are added to the reaction mixture, one fluorescent reporter probe is selected for the wild type and the other fluorescent probe is used for the mutant.**

- True
- False

**Answer**

true

**10. The analysis of image to determine DNA damage in comet assay is calculated for the \_\_\_\_\_ and \_\_\_\_\_.**

- “tail length” and “head length”
- “head length” and “head moment”
- “head length” and “tail moment”
- “tail length” and “tail moment”

**Answer**

“tail length” and “tail moment”

**11. Cells which stain negative for both fluorescein isothiocyanate Annexin V and propidium iodide in flow cytometric analysis for necrosis assay are:**

- Dead and undergoing apoptosis and necrosis
- Alive and not undergoing apoptosis or necrosis
- Dead and undergoing necrosis only
- Alive and undergoing apoptosis only

**Answer**

- Alive and not undergoing apoptosis or necrosis

**12. Histone Modification Assay uses Chromatin immunoprecipitation assay (ChIP) followed by:**

- Hybridization to microarrays (ChIP-chip)
- Immunofluorescence
- Fluorescence spectroscopy
- Fluorescence microscope

**Answer**

- Hybridization to microarrays (ChIP-chip)

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