2 /37

2203N272

Candidate's Seat No :_____

M.Sc. Sem.-1 Examination

402

Cancer Biology

Time : 2-00 Hours] **March 2022** **[Max. Marks : 50**

Instructions:
- **All Questions in Section I carry equal marks**
- **Attempt any THREE questions in Section I**
- **Question IX in Section II is COMPULSORY**
- **Illustrate your answers with neat and labeled diagram wherever necessary**

Section I

Q-I	**A**	**What are the different types of chromosomes? Explain with figure.**	**7**
	B	**Describe different types of translocations in detail.**	**7**
Q-II	**A**	**Write a note on Solenoid structure of chromosome.**	**7**
	B	**What is the Inversion? Describe different types of inversion in detail.**	**7**
Q-III	**A**	**What are Histones? List out its various characteristics.**	**7**
	B	**Define the constitutional chromosomal abnormality and acquired chromosomal abnormality.**	**7**
Q-IV	**A**	**Give difference between Heterochromatin and Euchromatin.**	**7**
	B	**Write a note on Down syndrome.**	**7**
Q-V	**A**	**Describe order of chromosome abnormalities in the karyotype as per ISCN guidelines.**	**7**
	B	**Explain Adherent culture versus suspension culture.**	**7**
Q-VI	**A**	**Define and explain composite karyotype as per ISCN guidelines.**	**7**
	B	**Explain advantages of tissue culture.**	**7**
Q-VII	**A**	**Write a note on unrelated clone according to ISCN guidelines.**	**7**
	B	**Write a note on cell synchronization.**	**7**
Q-VIII	**A**	**Write a note on general principles used to express numerical chromosomal rearrangements as per ISCN guidelines.**	**7**
	B	**Describe mode of action of Hypotonic solution in culture setting**	**7**

Section II

Q-IX **Multiple Choice Questions** **8**

1 **A** **Which is the cytogenetic technique/s that uses fluorescent probe for detecting specific DNA sequences on chromosomes?**

a FISH **b** Karyotyping
c GTG Banding **d** FISH and Karyotyping

2 **B** **Chromosome abnormality in super female is _____.**

P. T. O.

a 46,XXX
b 47,XYY
c 47,XXY
c 47,XXX

3 C **Which enzyme catalyzes the addition of acetyl groups to histone tails?**
a Methyl transferase
b Acetyl transferase
c Deacetylase
d Phosphorylase

4 D **Xeroderma Pigmentosum is _____.**
a Normal chromosome complements
b Chromosomal breakage syndrome
c Translocation
d Deletion

5 E **Pokeweed is _____.**
a Mitotic arrestant
b Fixation agent
c Mutagenic agent
d Washing reagent

6 F **As per ISCN guidelines, Abbreviation used to indicate composite karyotype is _____.**
a "cp"
b "der"
c "inv"
d "cm"

7 G **Uncertainty in chromosome or band designation is represented by_____.**
a @
b &
c ?
d %

8 H **Which chemical is used as hypotonic in harvesting procedure?**
a Chromic acid
b KCL
c Methanol:Acetic acid
d NaOH