0505N290

Candidate's Seat No :_____

MSc Sem.-2 Examination

410

Human Genetics

May-2025

Time : 2-30 Hours] **[Max. Marks : 70**

Q-I	1	Write an overview of genetic counseling.	**(07)**
	2	Explain the different contexts & situations in genetic counseling.	**(07)**
		OR	**OR**
	1	Explain the different patterns of inheritance.	**(07)**
	2	Write a note on: construction of pedigrees & the factors affecting its interpretation.	**(07)**
Q-II	1	What are the disruptions of the working alliance? Discuss.	**(07)**
	2	Write a note on: instructional aids for patient education.	**(07)**
		OR	**OR**
	1	What are the aspects of risk communication to the clients? Discuss.	**(07)**
	2	What are the factors impacting decision making? Discuss.	**(07)**
Q-III	1	Write a brief overview of radioactive isotope.	**(07)**
	2	Explain sealed source, unsealed source, disused source, and orphan source in brief.	**(07)**
		OR	**OR**
	1	Write details on the applications of radioactive isotopes in nuclear medicine and research.	**(07)**
	2	Describe a brief note on alpha particles, beta particles, gamma rays and neutrons.	**(07)**
Q-IV	1	Explain the Law of Radiosensitivity and how it relates to cell type, mitotic activity and differentiation. Provide relevant examples.	**(07)**
	2	What is the role of radiotherapy in cancer treatment? Compare and contrast external beam therapy and brachytherapy regarding mechanism, application and side effects.	**(07)**
		OR	**OR**
	1	Define radiation syndromes. Discuss the types of acute radiation syndromes based on dose and exposure level.	**(07)**
	2	Outline the biological effects of ionizing radiation on cells and cell organelles. Include mechanisms of DNA repair and apoptosis.	**(07)**
Q-V		**Answer any SEVEN out of TWELVE.**	**(14)**
	1	What is the value of extended negative history in a pedigree?	**02**
	2	Differentiate between sympathy & empathy.	**02**
	3	Draw the symbol for ovum donor.	**02**
	4	What is the importance of non-directiveness in genetic counseling?	**02**
	5	Define: cultural tailoring.	**02**
	6	What is medical documentation?	**02**
	7	Define cosmic radiation.	**02**
	8	Describe any one difference between isotope and radioactive isotope.	**02**
	9	Define mass number of atoms.	**02**
	10	What does the radiation-induced Bystander effect refer to?	**02**
	11	Name two organs highly sensitive to ionizing radiation.	**02**
	12	What is meant by radio-sensitizing agents? Give one example.	**02**