2811E839

Candidate's Seat No :_____

M.Sc Sem-3 Examination

504

CE & ART

November-2024

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

Q.1A	Discuss the key differences in the mechanisms, advantages, and limitations of conventional PCR and real time PCR.	7
Q.1B	Write a note on Real Time PCR	7
	OR	
Q.1A	Explain the PCR technology in detail.	7
Q.1B	Write a note on the applications of PCR and RT-PCR focused on Clinical Embryology and Reproductive Technology.	7
Q.2 A	Explain reversible inhibition of enzymes in detail with examples.	7
Q.2 B	Write down a brief note on enzyme classification as per IUBMB system.	7
	OR	
Q.2 A	List out the techniques for protein structure analysis and explain any three in detail.	7
Q.2 B	Explain SDS and Western blotting techniques as protein separation and detection techniques in IVF.	7
Q.3 A	Define metabolomics and describe HPLC in detail.	7
Q.3 B	Define metabolomics and its importance in ART.	7
	OR	
Q.3 A	Write a brief note on LCMS based metabolite estimation.	7
Q.3 B	Explain briefly the procedure to estimate given metabolite using HPLC.	7
Q.4 A	Explain OHSS and its treatment.	7
Q.4 B	Describe in brief the gonadotropins used in agonist and antagonist IVF cycles.	7
	OR	
Q.4 A	Describe in brief the types of ART treatments available for female infertility.	7
Q.4 B	Explain Pharmaceutical management of male infertility.	7
Q.5	Answer the Following Short Questions (Any 7)	14
1	What is the difference between synthase and synthetase?	
2	Write parameters of new WHO 2020 semen analysis criteria.	
3	Define metabolomics.	
4	List down essential amino acids.	
5	What is the role of degasser in HPLC?	
6	What is the significance of the annealing temperature in a PCR reaction?	
7	What is the role of clomiphene citrate?	

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8	Define Km value. What a high and low Km value indicates in terms of substrate-enzyme interaction?	
9	List down acidic solvent additives used in HPLC.	
10	Write name of two mass-spectrometry based metabolomics techniques.	
11	Define PCOS.	
12	Label X and Y axis of Mass Spectrometry graph.	