

M.Sc Sem-3 Examination

503

CE & ART

Time : 2-30 Hours]

November-2024

[Max. Marks : 70

Q.1A	Describe PGT in detail. Provide insights into one of the lab methods which could be used for detection of aneuploidy of 13	7
Q.1B	Describe PGT- HLA in detail.	7
	OR	
Q.1A	A couple has a recurrent pregnancy loss. The analysis of POC sample revealed the presence of a large deletion of the p arm of chromosome 5. Which lab method would you suggest for PGT? Describe the technique in detail.	7
Q.1B	Describe any three techniques which are used in PGT.	7
Q.2 A	Is the following statement true? "There are no ethical and social issues associated with PGT". If your answer is a "yes", please provide the reason. If no, please provide the detailed insight.	7
Q.2 B	Past, present and future of PGT. Provide the detailed insight with a couple of sentences on the future directions.	7
	OR	
Q.2 A	Provide the information related to the regulations in EU, INDIA and the US related to PGT.	7
Q.2 B	List the clinical outcomes of the PGT. Based on your observation, do you think that PGT is safe and accurate? If yes, why?	7
Q.3 A	Describe polar body biopsy.	7
Q.3 B	Describe ICSI technique.	7
	OR	
Q.3 A	Describe Trophoctoderm biopsy technique.	7
Q.3 B	Describe embryonic development in detail.	7
Q.4 A	A couple has a history of recurrent pregnancy loss. Cytogenetic analysis revealed the presence of 46,XX and 46,XY,t(4;10)(q25;q22) karyotypes of wife and husband, respectively. Which PGT type would you recommend and why? Provide detailed insights.	7
Q.4 B	What are different diagnostic methods to perform PGT from embryonic cells?	7
	OR	
Q.4 A	Provide the detailed insight into PGT-M and PGT-SR. Provide the indications, methodology and limitations.	7

(P.T.O)

Q.4 B	Which PGT type would you recommend for monogenic disorders? Provide detailed insights.	7
Q.5	Answer the Following Short Questions (Any 7)	14
1	List two of the most common indications for PGT?	
2	PGT-SR is recommended for a couple with a previous child with Down Syndrome. Is it true?	
3	PGD, PGS & PGT stands for _____	
4	PGT with sex selection for non-medical reasons is not prohibited in most countries. Is it true?	
5	PGT-A is recommended for advanced maternal age. Is it true?	
6	Selection of female embryos, in case of an AZFc deletion in the male partner could be offered because the disease mainly manifests in one gender and when the search for the specific molecular defect does have an added value. Is it true?	
7	The breakpoints of paracentric inversion are within one arm of the chromosome. Is it true?	
8	Competitive Genetic Hybridization is the full form of CGH. Is it true?	
9	A history of recurrent pregnancy loss and the presence of a large paracentric inversion of chromosome 2 in husband suggest the requirement of _____ technique.	
10	PGT is regulated by governmental organizations in the EU. Is it true?	