QP Code: RJ23MTECH041 Reg. No | | | | | | | | | | | AY 23

GIET UNIVERSITY, GUNUPUR – 765022

M. Tech (First Semester) Examinations, January– 2024

MPEBT1071 - Fundamentals of Stem Cell Technology

(Biotechnology)

Time: 3 Hrs Maximum: 70 Marks

(The figures in the right hand margin indicate marks.)

PART – A **(2 x 10 = 20 Marks)**

Q.1. Answer all questions	CO#	Blooms Level
a. Differentiate between pluripotency and totipotency.	CO1	K2
b. Illustrate the term Apheresis.	CO1	K3
c. What do you mean by cell differentiation?	CO2	K1
d. Write down about induced pluripotent cell.	CO2	K2
e. What do you mean by germ layers.	CO3	K1
f. Differentiate between external and internal fertilization.	CO3	K2
g. Write on blood transfusion.	CO4	K2
h. Illustrate about cryopreservation.	CO4	K3
i. What is spermatogenesis?	CO5	K1
j. Define and write about ICM.	CO5	K1

PART – B **(10 x 5=50 Marks)**

Answer ***ANY FIVE*** questions	Marks	CO#	Blooms Level
2. a. How plastic is adult cell? Discuss.	5	CO1	K2
b. Discuss about several disorder related to haematopoietic cell.	5	CO1	K3
3.a. Explain about hepatic stem cell and its role in liver regeneration.	5	CO1	K3
b. What unique properties of stem cells promotes its used in cell therapy?	5	CO2	K1
4. a. Discuss about any three diseases, where stem cell therapies have shown potential in curing them?	5	CO2	K3
b. Discuss the role of stem cell therapy in cancer.	5	CO2	K3
5.a. Discuss in details about various stages of differentiation in eukaryotes.	5	CO3	K3
b. What is embryo? Discuss about the various stages of the embryo?	5	CO3	K1
6. a. What is ICM? Discuss the role of ICM in development.	5	CO3	K1
b. Elaborate about Organogenesis.	5	CO4	K3
7.a. Discuss about the germ layers, development of different layers and their	5	CO4	K3

	significance for organ development.			
	b. Discuss about placenta and umbilical cord and their significance in human development.	5	CO4	K3
8.	a. Elaborate about the process of reproduction in human.	5	CO5	K3
	b. Elaborate about oogenesis, spermatogenesis and its significance.	5	CO5	K3

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