PhD degree in (Medical Biochemistry and Molecular Biology)

Blueprint of (Biochemical and molecular basics of regenerative medicine) course (PhD)

Course Code: (BIC604BMR)

The total marks of this course are 100, divided as:

- Workplace-based assessment (20 marks)
- Written exam (80 marks), distributed as follows:

Course content	Teaching hours	Relative weight to the total marks	Total Marks	MCQ Marks	No of exam Q (MCQ)	Short essay questions Marks	No of exam Q (short essay questions)
Introduction to stem cell Biology: a) Definition of stem cells b) Properties of stem cells c) History of stem cell research	3	10%	8	6		2	
Classification of stem cell: a) According to potency b) According to origin	7	23.3%	19	13		6	
Mesenchymal stem cells: a) Definition b) Sources c) Immunomodulatory characters of MSCs: - Modulation of innate immunity by MSCs -Modulation of adaptive immunity by MSCs	2	6.67%	5	3		2	
Difference between haemopoietic & mesenchymal stem cells:	2	6.67%	5	3		2	

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a) Origin b) Differentiation c) Characters							
Induced pluripotent stem cells: a) Characters b) iPSCs & gene therapy	4	13.3%	11	8		3	
Regulation of stem cell proliferation/differentiation	2	6.67%	6	4		2	
Stem cell signaling pathways	6	20%	16	11		5	
Medical applications of stem Cells: a) In research b) In therapy	2	6.67%	5	3		2	
Stem cell & regenerative Medicine: a) Introduction to regenerative medicine b) Stem cells and aging c) Use of stem cell in repair of injured tissues	2	6.67%	5	3		2	
Total	**30**	**100%**	**80**	54		26	

Head of Biochemistry & Molecular Biology Department
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