
 University of Sadat City	Academic Year:	2017-2018	Course Code:	C-63	Percentage	60%	 GEBRI
	Level:	1 st term	Academic Program:	Master	N. of Exam Paper		
	Course Name:	Methods in Immunology	Department:	Molecular Biology	Date:	30/1/2017	
			Total score:	60	Time allowed:	3h	

Instructions of Exam:

Answer the obligatory questions.

1. Use the blue pen and pencil in answer sheet
2. Allow one sheet answer for every student
3. Is not allowed to borrow the tools (pen, pencils, drawing tools, calculator ...etc)
4. Is not allowed to use the cell phone or any of its application during the time of exam

Answer the following questions. Illustrate your answers with full-detailed drawings:

1. Describe in full details: (25 degrees)

- a. PBMC preparation referring to all the reagents and equipments required for tissue culture laboratory.
- b. Dialysis and gel filtration as a simple method for protein purification.
- c. Application of column chromatography to purify fusion proteins (tagged with GST or 6 histidin).
- d. Role of HAT selection in monoclonal antibody production.
- e. How to measure the cytokine secretion level and cytokine secreting cells (With description of one of method only)

2. Give a hand to help your friend to: (25 degrees)

- a. Prepare 100 ml of 0.1M Tris-buffer (Stock concentration is 2M).
- b. Make immune screening for cDNA library to test recombinant protein production.
- c. Prepare ConA mitogen (50 µg/ml) to be used in cell culture as 50µl/well. Knowing that cells were dispersed as 200 µl/well and stock of ConA is 1 mg/ml.
- d. Calculate total number of cells if you have 10 ml and count on haemocytometer is 150 cells (in 16 square)
- e. Differentiate between different types of blotting assay
- f. Separate MQ, CD4+ and CD8+ cells from a blood sample ? Examine their response to any drug?
- g. Use dialysis bag for concentration

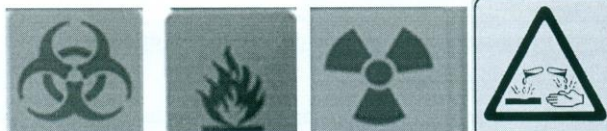
Professor of Course	د. با محمد طه	Course coordinator	د. با محمد طه
Staff Course	د. با محمد طه - د. با محمد طه	Department Head	د. با محمد طه

3. Choose the correct answer: (10 degrees)

A. In biosafety, There are 4 colour you must know:

1. Red: referee to _____
2. Blue referee to _____
3. Yellow referee to _____
4. Green referee to _____

B. Define the following signs:



C. Which of the following statements relates to sharps?

- a. Sharps include scalpel blades
- b. Sharps should be disposed of into specific Sharps containers
- c. Sharps should never be placed into regular trash
- d. All of the above

D. Needles should never be –

- a. Disposed of into regular trash
- b. Recapped
- c. Bent or broken
- d. All of the above

Good Luck & Best wishes.....

Professor of Course		Course coordinator	
Staff Course		Department Head	