

University of Technology
Department of Applied Sciences
Final Examination 2015/2016



Subject : E nzyme biotechnology
Branch : Biotechnology
Examiner : Dr. Entesar H. Ali

Class : 4th year
Time : 3 hours
Date : 2015- 2016

ANSWER ONLY (4) QUESTIONS

Q1 (25 marks)

A- Why used acetone powder in purification protein ? (8 marks)

B- What the parameter that may be measure after each purification steps? (8 marks)

C- How temperature effect in activity of enzyme ? (9 marks)

Q2 (25 marks)

A- Why enzyme have specificity ? (8 marks)

B- Why and where used ultrifiltration ? (8 marks)

C- What the general nature of enzyme? (9 marks)

Q3 (25 marks)

A- Draw figure about development of a PH gradient in a chromatography focusing and explain it ? (8 marks)

B- What are the type of specificity of enzyme ? (8 marks)

C- How can separation sub unit of hemoglobin ? (9 marks)

Q4 (25 marks)

A- What R_e and R_f mean? (8 marks)

B- Compared between coenzyme and cofactor ? (8 marks)

C- How can purity immunoglobulin in solution ? (9 marks)

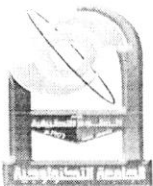
Q5 (25 marks)

A- What the PI mean and why used in purification ? (8 marks)

B- How can prepare column of gel filtration to purify 40 ml of protein solution? (8 marks)

C- What do we mean degree of purity and purpose of the account ? (9 marks)

Dr. Entesar H. Ali



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Final Exam. 2015-2016



Subject: Tissue Culture
Branch: Biotechnology
Examiner: Prof. Dr. Ghassan M. Sulaiman

Class: 4 year
Time: 3 hours
Date:

Answer Four questions of the Followings

Q1: Answer the followings (12.5 Marks)

- A. What are the major criteria of viability assay? Mention them and then give the advantages of colorimetric assay?
B. In a short descriptive paragraph or two describe the differences between adherent and suspension cell lines with giving example of each.

Q2: Answer the followings (12.5 Marks)

A. Give the role of the followings?

1. Trypsin EDTA 2. HEPES 3. Osmometer 4. Collagenase

B. Types of serum testing? Then mention the kinds of sera used in tissue culture.

Q3: Give the facts of the following misconceptions? (12.5 Marks)

1. Pregnancy, fetuses or babies are aborted or harmed in stem cell research.
2. A clone is grown in a lab without an embryo or born from a mother and is the same age and personality as you, and has no belly button.

Q4: Mention the steps to clone goat from fetus and blastocyst? Explain your answer by diagram. Then mention the Pros. and Cons. of cloning. (12.5 Marks)

Q5: Which protein is activated by Cdk-Cyclin complex in cell cycle? Explain your answer with diagram. (12.5 Marks)

GOOD LUCK