

EASTERN UNIVERSITY, SRI LANKA

EXTERNAL DEGREE

FIRST EXAMINATION IN SCIENCE 2002/2003 (June 2004)

FIRST SEMESTER

EXTZL 101 CELL BIOLOGY AND BIOCHEMISTRY

Time: 02 hours

Answer all questions.

(Illustrate your answers with clear, labelled diagrams where necessary)

---

1.
  - a. Define the cell theory and comment briefly the contribution of Stanley Miller to the origin of cell.
  - b. Name the organelle called the power house and write down its structure and function.
  - c. Briefly comment on the fluid mosaic model of plasma membrane.
  
2.
  - a. Name three macro-biological molecules in the cell and describe the physical and biochemical characteristics.
  - b. Explain briefly the cell cycle.
  - c. Name the trans membrane proteins and comment on its role in the transport of molecules.
  
3.
  - a. Explain the term "metabolism".
  - b. Describe briefly the fate of cytoplasmic NADP and pyruvate in degradative pathway of glucose.
  - c. Comment on the role of carnitine in fat metabolism.

Contd/2

4. Write short notes on the following:
- a. Protein synthesis in prokaryotic cell.
  - b. Enzyme specificity.
  - c. Magnification and resolving power of a light microscope.

12 hours



all questions (all questions) and  
your answers with clear, labelled diagrams where necessary)

Define the cell theory and comment briefly on the contribution of Stanley Miller to the origin of life.

Name the organelle called the power house and write down its biochemical function.

Briefly comment on the fluid mosaic model of plasma membrane.

Show the rough and smooth endoplasmic reticulum.

Name three diatomic biological molecules in the cell and describe their physical and biochemical characteristics.

Explain briefly the cell cycle.

Name the trans membrane proteins and comment on its role in the transport of molecules across the cell membrane.

Explain the term "metabolism".

Describe briefly the fate of cytoplasmic NADP and pyruvate in degradative pathway of glucose.

Comment on the role of carnitine in fat metabolism.