



Benha University
Faculty of Science
Department of Zoology

Answer sheet for Cell Biology (319 Z)

Date: 21/1/2016

Exam time: 1:00 hours

Dr. Ebtesam Nafie

Answer of Q1:

(8 marks)

- 1- During metaphase mitosis chromosomes break and disintegrate. (x), The correction is;
During metaphase mitosis chromosomes line in the equator of the cell.
- 2- Heterochromatin is the most compact form of chromatin. (✓)
- 3- Lysosome acts as an intracellular circulatory or transporting system. (x), the correction is;
Lysosome acts as digestion of extracellular material
- 4- The rough endoplasmic reticulum has role in proteins synthesis. (✓)
- 5- During cell division the nuclear membrane appears in metaphase. (x) the correction is;
During cell division the nuclear membrane disappears in metaphase.
- 6- All chromatin materials of a cell is present in the form of Euochromatin. (x), The correction is;
chromatin materials of a cell is present in the form of Euochromatin and Heterochromatin.
- 7- Ribosomes contain hydrolytic enzymes for autolysis and digestion. (x), the correction is
lysosome contain hydrolytic enzymes for autolysis and digestion.
- 8- Autophagy digestion of extracellular materials by peroxisomes. (x) the correction is;
Autophagy digestion of intracellular organelles by lysosomes.

Answer of Q2: Choose the best answer:

(6 marks)

- 1- B- Contractile vacuole , 2- B- Meiosis II , 3- C- Golgi apparatus, 4- B- Early prophase,
5- A- Centromeres, 6- A-7

Answer of Q3: Complete the sentence with correct word:

(6marks)

- a) Rough Endoplasmic Reticulum
- b) sarcoplasmic reticulum



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c) mRNA , Rough Endoplasmic Reticulum.

d) Liver cells, Skeletal muscle.

e) Histone

f) Chromatid, centromere

The answer of Q4: Define the following:

(4 marks)

a) **Endocytosis:** is a form of active transport in which a cell transports molecules (such as proteins) into the cell (endo- + cytosin) by engulfing them in an energy-using process.

b) **Nucleosome:** is Simplest packing str of DNA ,146 bp DNA wrapped around histone octamer, Octamer = 2 copies of 4 core histones, DNA length varies b/w species, Core DNA – DNA associated with histone octamer, Linker DNA – DNA b/w histone octamer – 8 to 114 bp.

c) **Peroxisomes:** Membrane bound sacs performing a digestive function, Enzymes in peroxisomes are oxidases that catalyze redox reactions, Liver contains many peroxisomes to break down alcohol, Form by budding off from ER, Present in animal cells only.

d) **Satellite DNA:** consists of very large arrays of tandemly repeating, non-coding DNA. Satellite DNA is the main component of functional centromeres, and form the main structural constituent of heterochromatin. The name "satellite DNA" refers to how repetitions of a short DNA sequence tend to produce a different frequency of the nucleotides adenine, cytosine, guanine and thymine, and thus have a different density from bulk DNA - such that they form a second or 'satellite' band when genomic DNA is separated on a density gradient.