**Central University of Punjab, Bathinda**

**Second Sessional Examination**

**BSS – 656**

May 24, 2011

**Maximum Marks: 20 Attempt all questions. Time: 9:00am to 10:00am**

1. This fibrous protein provide structural support to heterochromatin and transcriptional regulation in cell nucleus > Lamin
2. This organelle helps spermatozoa to fuse with ovum >acrosome.
3. In plant cells, conversion of fat into sugars takes place in this organelle. >Glyoxisome
4. Animals store pigments in this organelle. >Melanosome
5. Cells which contain distinctive internal organelles are called \_\_\_\_\_\_. >Eukaryote
6. Which of the following organelles serve as the "working table" for assembling proteins?
   1. Mitochondria
   2. Ribosomes
   3. Golgi bodies >
   4. Nucleus
7. Tay-Sachs disease involves a malfunctioning of which of the following organelles?
   1. Endoplasmic reticulum
   2. Nucleus
   3. Lysosomes >
   4. Golgi bodies
8. These organelles use oxygen to assist in liberating energy stored in sugars.
   1. Golgi bodies
   2. Lysosomes
   3. Endoplasmic reticulum
   4. Mitochondria >
9. All of your mitochondria come from your mother.
   1. True >
   2. False
10. This interconnected system of bundled fibers, threads and lattices supply internal organization.
    1. Nucleolus
    2. Cytoskeleton>
    3. Nucleus
    4. Chromosomes
11. This organelle may have evolved from engulfed bacteria which escaped cellular digestion.
    1. >Mt or Ch
12. What is the significance of selective permeability to biological membranes?
    1. Selective permeability allows cells to concentrate particular ions on either side of the membrane.
    2. Selective permeability prevents toxic materials from entering the cell.
    3. Selective permeability allows the plasma membrane to control traffic into and out of the cell it surrounds.
    4. Selective permeability permits the selective uptake of nutrients and the elimination of wastes.
    5. All of the above are correct.<
13. Just as with most liquids, the fluid lipid bilayer can solidify and freeze at very cold temperatures. However, there are certain kinds of fish that live in very cold water. The cell membranes of these fish are likely to have more of which of the following membrane components than would a fish that occupies warmer waters?
    1. transport proteins
    2. phospholipids
    3. cholesterol <
    4. glycoproteins
14. In the process of diffusion ...
    1. molecules move from an area of lesser concentration to an area of greater concentration.
    2. directed motion of the molecules causes them to migrate away from each other.
    3. molecules move from an area of greater concentration to an area of lesser concentration. <
    4. random motion of the molecules causes them to migrate toward each other.
15. Which of the following molecules or ions would normally need to use a membrane protein in order to move through the cell membrane?
    1. O2
    2. H+ <
    3. H2O
    4. CO2
16. Which of the following types of transport does NOT require the use of a transport protein?
    1. facilitated diffusion
    2. active transport
    3. both simple diffusion and facilitated diffusion
    4. simple diffusion <
17. Which of the following processes uses a difference in concentration (or concentration gradient) to transport molecules across the cell membrane? (level 2) [Hint]
    1. simple diffusion
    2. osmosis
    3. facilitated diffusion
    4. all of the above <
18. How many different types of amino acid are used to make proteins?
    1. 4
    2. 20 <
    3. 23
    4. 38
19. Amino acids contain carbon, hydrogen, oxygen, and what other main element?

a. nitrogen <

b. phosphorous

c. iron

d. magnesium

1. At what pH value do most enzymes work best?

a. pH 1

b. pH 3

c. pH 7 <

d. pH 11

1. Which of these is not a globular protein?

a. The skin protein collagen <

b. The hormone insulin

c. The enzyme amylase

d. The oxygen carrier haemoglobin

1. Proteins are made from long, folded chain molecules. What are these chains called?

a. polysaccharides

b. polypeptides <

c. polynucleotides

d. fatty acids

1. Disulphide bridges help to maintain which aspect of protein structure?

a. Primary structure

b. Secondary structure

c. Tertiary structure<

d. Quaternary structure

1. Why is haemoglobin described as a 'conjugated protein'?

a. It is not made entirely of amino acids<

b. It contains more than one chain

c. It binds to oxygen

d. It is fixed to the cell membrane

1. Which of these will not normally denature a protein?

a. Very high pH

b. Very low pH

c. Very high temperatures

d. Very low temperatures<

1. The primary structure of a protein is held together by:

a. Hydrogen bonds

b. Ionic bonds

c. Glycosidic bonds

d. Peptide bonds<

1. Which of these is a protein?

a. catalase<

b. chlorophyll

c. cholesterol

d. cytosine

1. How does a competitive inhibitor prevent an enzyme from doing its job?

a. By denaturing the enzyme

b. By altering the pH

c. By binding to the active site<

d. By immobilising the substrate

1. What type of reaction is catalysed by protease enzymes?

a. Condensation

b. Hydrolysis<

c. Oxidation

d. Reduction

1. The poisonous gas cyanide, which prevents normal respiration, is an example of:

a. An enzyme

b. A coenzyme

c. An enzyme activator

d. An enzyme inhibitor<

1. Enzymes are catalysts. What does this mean?

a. They break down other molecules

b. They bind to other molecules

c. They are made from smaller molecules

d. They speed up chemical reactions<

1. Lipase, which breaks down fats in the small intestine, is:

a. A globular protein<

b. A fibrous protein

c. An intracellular enzyme

d. Both A and C