

VINAYAKA MISSION'S RESEARCH FOUNDATIONS, SALEM
(Deemed to be University)

B.OPTOMETRY DEGREE EXAMINATION – August 2018
First Year

GENERAL BIO-CHEMISTRY AND OCULAR BIO-CHEMISTRY

Time: Three hours

Maximum: 80 marks

I Choose the best answer

(10 x 1 = 10)

- Intra cellular digestive system is located in
 - Cytosol
 - Lysosomes
 - Mitochondria
 - Microsome
- A rich source of starch is
 - Rice
 - Wheat
 - Ragi
 - Jowar
- Casein is a
 - Globular protein
 - Egg protein
 - Milk protein
 - Fibrous protein
- Vitamin-C deficiency results in
 - Bleeding Gums
 - Defective connective tissue
 - Loosening of teeth
 - All of the above
- Example of an isomerase is
 - Epimerase
 - Glutaminase
 - Cytochrome oxidase
 - Acetyl decarboxylase
- Which of the following is the middle layer of tear film?
 - Aqueous layer
 - Aqueous humor
 - Mucus layer
 - Lipid layer
- Corneal dehydration is mainly due to
 - Corneal protein
 - Electrolyte composition
 - Corneal layers
 - All the above
- Anterior layer of the ocular lens contains _____ epithelial cell layer
 - Single
 - Double
 - Three
 - Five
- Protein synthesis at the lens equator cause
 - Mature cataract
 - Human senile cataract
 - Experimental cataract
 - Peripheral cataract
- The vitreous humor contains
 - Chondroitin sulphate
 - Keratan sulphate
 - Hyaluronic acid
 - Cellulose

II State whether the following statements are **TRUE** or **FALSE** (10 x 1 = 10)

1. Vitamin-C and vitamin-E are the best natural antioxidant.
2. One cycle of TCA produce 38 ATP.
3. Sodium regulates blood osmosis.
4. Urea excreted in liver.
5. Mitochondria is used to cell respiration.
6. If any solid mater fall in your eye, the mucous layer produces mucos to slippery.
7. The corneal collagen fibrile form a lattice structure for its 100% transparency.
8. UV light do not cause cataract.
9. Zonules is used to form aqueous humor.
10. Rhodopsin is used to see black and white light.

III Fill in the blanks: (10 x 1 = 10)

1. Storage form of the carbohydrate in animals is _____
2. Electron transport chain is present in _____
3. Myelin sheath is rich in _____
4. Peroxidase is a (an) _____ antioxidant.
5. Ds DNA is stabilized by _____ bond.
6. _____ secretes the aqueous humor.
7. Anatomical integrity of corneal epithelium is used in corneal.
8. A proteolytic enzyme is used in cataract surgery to break _____
9. Increased intra ocular pressure is known as _____
10. Inverte test is used to find _____

IV Write any **FIVE** answers of the following: (5 x 6 = 30)

1. Write the chemistry of disaccharides.
2. Discuss briefly on phospholipids.
3. Explain the structure and the biological functions of essential amino acids.
4. Write short notes on antioxidants.
5. Illustrate the classification of enzymes in order.
6. How is a lens utilize the energy for its transparency? Explain.
7. Mention the role of vitamin-A in the vision.

V Write any **TWO** essays of the following: (2 x 10 = 20)

1. Discuss in detail on structure, layers and functions of tear film.
2. What factors cause increased intra ocular pressure? Explain.
3. Describe the method of glucose estimation and discuss its result.

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