

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

B.OPTOMETRY DEGREE EXAMINATION – September 2021
First Year

GENERAL BIO-CHEMISTRY AND OCULAR BIO-CHEMISTRY

Time: Three hours

Maximum: 80 marks

I Choose the best answer (10 x 1 = 10)

- Glycolysis takes place in the
 - Nucleus
 - Cytoplasm
 - Mitochondria
 - Cell
- DNA is situated in the
 - Cytoplasm
 - Nucleus
 - Cell
 - Golgi apparatus
- The normal blood pH is
 - 7.25-7.45
 - 7.35-7.45
 - 7.15-7.25
 - 7.25-7.35
- The nitrogenous base present in cephalin
 - Choline
 - Inositol
 - Ethanolamine
 - Serine
- The desirable random blood glucose levels should be
 - < 100mg%
 - < 200mg%
 - < 140mg%
 - < 240mg%
- Food rich in vitamin A
 - Spinach
 - Carrot
 - Cereals
 - Orange
- In vitamin A deficiency dark adaptation time is
 - Normal
 - Increased
 - Decreased
 - No change
- Rods are responsible for vision in
 - Dim light
 - Bright light
 - color vision
 - Both a and b
- Enzyme found in tears
 - Hexokinase
 - Lactase
 - Catalase
 - Lysozyme
- Opacity of the lens causes
 - Lose of vision
 - Nyctalopia
 - Cataract
 - Retinopathy

II State whether the following statements are True or False (10 x 1 = 10)

1. APT is synthesized in mitochondria.
2. Blood pH increased in acidosis.
3. Glycosaminoglycans are not heteropolysaccharides.
4. Lenolenic acid is an essential fatty acid.
5. Vitamin C is not an antioxidant.
6. Keratan sulfate is present in Cornea.
7. Cornea is a vascular in structure
8. Rhodopsin pigment present in cone cells.
9. Vitreous humor is non elastic in nature.
10. Beta carotenes useful in protecting eye disease.

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

1. Benedicts test is performed to identify _____
2. _____ is the end product of glycolysis.
3. _____ is the nitrogenous base present in lecithin.
4. Urea cycle takes place in _____.
5. Fat soluble vitamins are _____
6. Refractive index of myopia is _____
7. _____ continues to grow in life time
8. Photosensitive cells are present in _____
9. Reduction in number of cones are responsible for _____
10. Compounds with vitamin A activity referred as _____

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

1. Briefly explain Wald's visual cycle.
2. Write about free redicals and antioxidants.
3. Copper.
4. Functions of plasma proteins.
5. Buffers.
6. Write about the composition and functions of tear.
7. Functions of retina.

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

1. Discuss the sources, RDA, functions and deficiency manifestations of vitamin A.
2. Write in detail about various layers of cornea with diagram.
3. Write in detail about corneal transparency.

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