

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

B.OPTOMETRY DEGREE
EXAMINATION – August 2019
First Year

GENERAL PHYSIOLOGY AND OCULAR PHYSIOLOGY

Time: Three hours

Maximum: 80 marks

I Choose the best answer

(10 x 1 = 10)

1. The first line of defence against acute bacterial infection is
 - a) Neutrophils
 - b) Eosinophils
 - c) Macrophages
 - d) Basophils
2. The part of the cell where genetic material is stored is
 - a) Endoplasmic reticulum
 - b) Golgi bodies
 - c) Lysosomes
 - d) Nucleus
3. The mineral which plays an important role in muscle contraction is
 - a) Mg
 - b) Ca
 - c) Mn
 - d) P
4. The pacemaker of the heart
 - a) Sino – Atrial Node
 - b) AV node
 - c) Purkinje fibers
 - d) Left ventricle
5. The mechanism by which small – intestinal contents are propelled towards the large intestine is called
 - a) Pendular movements
 - b) Peristalsis
 - c) Deglutition
 - d) Osmosis
6. Dyspnoea is
 - a) Difficulty in breathing
 - b) Difficulty in swallowing
 - c) Difficulty in moving the limbs
 - d) Difficulty in cognition
7. Anti – Diuretic hormone is secreted by
 - a) Anterior pituitary
 - b) Kidney
 - c) Posterior pituitary
 - d) Adrenal medulla
8. The sphincter papillae is supplied by
 - a) Sympathetic system
 - b) Trigeminal nerve
 - c) Oculomotor nerve
 - d) Trochlear nerve
9. Which of these is not a visual pigment?
 - a) Erythrochrome
 - b) Cyanochrome
 - c) Rhodopsin
 - d) Biliverdin
10. Which of these is not a part of the visual pathway?
 - a) Thalamus
 - b) Cavernous sinus
 - c) Occipital cortex
 - d) Optic nerve

(p.t.o)

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

1. Corneal reflex is an example of deep tendon reflex.
2. Semicircular canals are located in the inner area.
3. Mineralocorticoids are secreted by Zona reticularis.
4. The normal glomerular filtration rate is 125 ml/min.
5. Bile is useful in digestion and absorption of fats.
6. Myocardial infarction causes cardiogenic shock.
7. Humoral immunity involves plasma cells and antibodies.
8. Gene is a portion of RNA molecule.
9. Cornea is a vascular structure.
10. Accommodation causes relaxation of the ciliary zonules.

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

1. _____ is the part of a cell made of a lipid bi layer with embedded proteins.
2. Glands that pour their secretions directly into the blood are called _____ glands.
3. The total volume of blood is _____ litres.
4. The record of the electrical activity of the heart is called as _____.
5. The hormone secreted by the G cells of the pyloric antrum of the stomach is _____.
6. The central nervous system comprises _____ and _____.
7. _____ is the male sex hormone.
8. _____ is supplied by the abducent nerve.
9. The optic tract fibers synapse in _____.
10. _____ is a optic neuropathy caused by raised intra ocular pressure.

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

1. Platelets
2. Gastric digestion – Composition, actions and regulation of gastric juice.
3. Laws of ocular motility.
4. Urine formation
5. Adrenal cortex
6. Test for colour vision
7. Wald's visual cycle

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

1. Cardiac cycle – Explain in detail with diagram.
2. Aqueous humour dynamics – Formation, circulation and Drainage with diagrams.
3. Binocular Single Vision – grades, tests and abnormalities.