W 001/158

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Enrolment Number										

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Winter, 2024

B. Pharm 2nd Semester Examination

Human Anatomy & Physiology-II

Course Code: BP201T

Full Marks – 75 **Time – 3 hours**

The figure in the margin indicates full marks for the questions

1. Multiple Choice Questions (answer all questions): **(20 x 1= 20)**

I. All of the following are hormones of the anterior pituitary *except*:

a) FSH b) GH

c) PTH d) TSH

II. Where is insulin primarily produced in the body?

a) Adrenal Gland b) Pancreas

c) Thyroid gland d) Pituitary gland

III. What is that section of DNA that codes for a protein called?

a) Gene b) Plasmid

c) Allele d) Chromosome

IV. The micturition reflex is located in the:

a) Kidney b) Cerebrum

c) Hypothalamus d) Sacral part of the spine

V. Which of the following nerve is known as cranial nerve I?

a) Optic b) Olfactory

c) Vagus d) Facial

VI. Macula densa is present in:

a) Collecting tubule b) Proximal convoluted tubule

c) Distal convoluted tubule d) Loop of Henle

VII. Enterogastric reflex is stimulated by all *except*:

a) Alkaline content of the small intestine

b) Hyperosmolarity of chyme

c) Distension of duodenum

d) None

VIII. Intestinal motility is increased by:

a) Gastrin b) CCK

c) Secretin d) Motilin

IX. Human sperm moves with the help of:

a) Cillia b) Flagellum

c) Basal body d) Nucleosome

X. Blood testis barrier is formed by:

a) Sertoli cells b) Leydig cells

c) Epididymis d) Vas deferens

XI. Steroid receptors are present in:

a) Cytoplasm b) Cell nucleus

c) Cell membrane d) None

XII. Nuerolemmocytes are also known as:

a) Schwann cells b) Astrocytes

c) Satellite cells d) Ependymal cells

XIII. Cells present in cerebellar cortex are all *except*:

a) Purkinje b) Bipolar

c) Granule d) Golgi

XIV. Function of limbic system is_____

a) Emotion b) Movement

c) Higher function d) Consciousness

XV. Which hormone is responsible for regulating water and electrolyte balance?

a) Aldosterone b) Insulin

c) Thyroxine d) Growth hormone

XVI. The cerebrospinal fluid is primarily produced in which structure of the brain?

a) Cerebrum b) Brain stem

c) Ventricles d) Cerebellum

XVII. Spermatogenesis is the process of:

a) Formation of sperm cells b) Formation of egg cells

c) Fertilization d) Menstruation

XVIII. Which organelle is primarily responsible for protein synthesis?

a) Mitochondria b) Nucleus

d) Ribosome d) Golgi apparatus

XIX. Microglia are:

a) Immune cells for brain

b) Immune cells for liver

c) Immune cells for kidney

d) All of the above

XX. Which of the following is a potent vasoconstrictor?

a) Angiotensinogen b) Angiotensin-I

c) Angiotensin-II d) Renin

2. Short Answers (Any *seven*) [word limit: 400 words] **(7 x 5 = 35)**

a) Explain the physiology of gastric acid secretion. What is the role of somatostatin in this process?

b) What type of cells are present in the small intestine? Discuss the role of intestinal tight junction in health and disease.

c) What is micturition reflex? Explain the role of kidney in acid base balance.

d) Write a note on regulation of blood pressure and glomerular filtration rate (GFR) through renin angiotensin aldosterone system (RAAS).

e) Explain the mechanism of action potential in terms of depolarization, repolarization and hyperpolarization.

f) What is negative pressure ventilation? Write a short note on mechanism of breathing.

g) What is human chorionic gonadotropin (HCG)? Write a note on immune tolerance during the pregnancy.

h) Explain the physiology of thyroid hormone synthesis. Enlist a few functions of thyroid hormone in the body.

i) Write a note on protein synthesis.

3. Long Answers (Answer any *two*) [word limit: 700 words] **(2 x 10 = 20)**

a) Provide a brief description on the menstrual cycle. Describe the physiological changes that occur during pregnancy and steps involved in the process of parturition. **(3+7)**

b) Explain the anatomical features of sympathetic and parasympathetic nervous system with their effects on the organ system. **(5+5)**

c) Write a note explaining the various hormones produced by the pituitary gland. Describe the functions of insulin and glucagon. Write a brief note on type II diabetes mellitus. **(5+3+2)**