



BRAINWARE UNIVERSITY
Term End Examination 2020 - 21

Programme – Bachelor of Optometry

Course Name – Human Physiology

Course Code - BOPTO102

Semester / Year - Semester I

Time allotted : 75 Minutes

Full Marks : 60

[The figure in the margin indicates full marks. Candidates are required to give their answers in their own words as far as practicable.]

Group-A

(Multiple Choice Type Question)

1 x 60=60

1. (Answer any Sixty)

(i) The perichondrium is:

- | | |
|-------------------------------------|--|
| a) Yellow elastic connective tissue | b) Loose areolar connective tissue |
| c) Reticular connective tissue | d) Irregular white fibrous connective tissue |

(ii) Vital stain is used to detect the following cell:

- | | |
|--------------------|-------------------|
| a) Plasma cell | b) Reticular cell |
| c) Macrophage cell | d) Mast cells |

(iii) Vitreous humor of the eye is formed of:

- | | |
|----------------------|-------------------------------|
| a) Yellow elastic CT | b) Reticular CT |
| c) Mucoïd CT | d) Irregular white fibrous CT |

(iv) The connective tissue that connects muscle to bone is called

- | | |
|-------------------|-----------------|
| a) Ligament | b) Tendon |
| c) Nervous tissue | d) All of these |

(v) Haversian canals occur in

- | | |
|------------|-------------|
| a) Pubis | b) Clavicle |
| c) Scapula | d) Humerus |

(vi) Goiter is a disease due to

- a) Hyperthyroidism
- b) Iodine deficiency
- c) Insulin deficiency
- d) Hb deficiency

(vii) Basement membrane is made up of-

- a) No cell product of epithelial cell
- b) Endodermal cell
- c) Epidermal cell only
- d) Cylindrical, unbranched, striated, multinucleate and voluntary.

(viii) Tendon is made up of-

- a) Yellow fibrous connective tissue
- b) Modified white fibrous tissue
- c) Areolar tissue
- d) Adipose tissue

(ix) Which of the following statements about red blood cells (RBCs) is correct?

- a) RBCs contain hemoglobin
- b) Mature RBCs lack cell membrane
- c) Mature RBCs lack ribosomes
- d) The lifespan of RBCs is about 30 days.

(x) The term _____ refers to production of blood cells in the _____ of adults

- a) Hemolysis; spleen
- b) Hemostasis; liver
- c) Homeostasis; bone marrow
- d) Hematopoiesis; bone marrow

(xi) Percentage of water in plasma is about

- a) 80-82%
- b) 90-92%
- c) 50-52%,
- d) 60-62%

(xii) Normal pH of blood is

- a) 2.2
- b) 5.2
- c) 7.4
- d) 10.4

(xiii) Process of formation of blood corpuscles is called

- a) Haemolysis
- b) Homeostasis
- c) Haemopoiesis
- d) Hemostasis

(xiv) Which of the following cells produces HCl?

- a) Beta cells
- b) Oxyntic cells
- c) Chief cells
- d) Alpha cells

(xv) The pancreatic juice which aids digestion is secreted into?

- a) Liver
- b) Duodenum
- c) Stomach
- d) Ileum

(xvi) Name the digestive juice that lacks enzyme but helps in digestion

- a) Bile juice
- b) Pancreatic juice
- c) Ptyalin
- d) Pepsin

(xvii) Which part of pancreas produce and secrete insulin?

- a) Glomerulus
- b) Bowman's capsule
- c) Islets of Langerhans
- d) Loop of Henle

(xviii) Which cells produce insulin?

- a) Alpha cells
- b) Beta cells
- c) Delta cells
- d) F cells

(xix) What is the pH of the saliva?

- a) 3.0-5.0
- b) 7.0-8.0
- c) 5.5-6.2
- d) 6.2-7.4

(xx) Which of the following is NOT the salivary protein?

- a) Lysozyme
- b) Mucus
- c) Phosphatase
- d) Amylase

(xxi) Yellow color of urine is due to

- a) Urochrome
- b) Urea
- c) Bilirubin
- d) Uric acid

(xxii) Glomerular filtration rate would be increased by :

- a) constriction of the afferent arteriole
- b) a decrease in afferent arteriolar pressure
- c) compression of the renal capsule
- d) a decrease in the concentration of plasma protein

(xxiii) About the proximal convoluted tubules , all are true except :

- a) reabsorb most of Na⁺ ions in glomerular filtrate
- b) reabsorb most of Cl⁻ ions in glomerular filtrate
- c) reabsorb most of K⁺ ions in glomerular filtrate
- d) contains JGCs which secrete renin

(xxiv) Filtration occurs in the____,most reabsorption occurs in the____, and urine is transported from the kidney to the bladder in the_____.

- a) Proximal tubule, distal tubule, urethra
- b) glomerulus proximal tubule, ureter
- c) Afferent arteriole, loop Henle, collecting tube
- d) Distal tubule, proximal tubule, urethra

(xxv) The normal value of GFR is-

- a) 180 ml/Day
- b) 125 ml/min
- c) 140 ml/min
- d) 100 ml/min

(xxvi) The blood from glomerulus is carried away by

- a) Afferent arteriole
- b) Efferent arteriole
- c) Renal vein
- d) Peritubular capillary

(xxvii) Which of this statement is INCORRECT regarding the function of hormones?

- a) Reproduction and sexual differentiation
- b) Maintenance of internal environment
- c) Maintain body temperature
- d) Development and growth

(xxviii) Which of these is a fat soluble hormone?

- a) TSH
- b) ACTH
- c) Insulin
- d) Testosterone

(xxix) All of the following are hormones of the anterior pituitary except:

- a) Human growth hormone (GH)
- b) Follicle-stimulating hormone (FSH)
- c) Parathyroid hormone(PTH)
- d) Thyroid-stimulating hormone (TSH)

(xxx) Which of the following hormones are responsible for the "fight-or-flight" response?

- a) Epinephrine and norepinephrine
- b) Insulin and glucagon
- c) Esrtogen and progesterone
- d) Thyroxin and melatonin

(xxxii) Which is not a function of the hypothalamus?

- a) Affect heart rate
- b) Control temperature
- c) Affect water balance
- d) Secrete FSH

(xxxiii) Which hormone STARTS the ovulation cycle?

- a) Luteinizing Hormone
- b) Estrogen
- c) Progesterone
- d) FSH

(xxxiiii) The sperms are temporarily stored in

- a) Vas deferens
- b) Vas eferens
- c) Epididymis
- d) Bladder

(xxxv) The hormone dehydroepiandrosterone sulfate (DHEAS) is synthesized in the

- a) Ovary
- b) Testicle

c) Adrenal gland

d) Pituitary gland

(xxxv) Sperms are produced at a temperature that is _____ the body temperature.

a) Same as

b) Lower than

c) Higher than

d) Immaterial to

(xxxvi) The epithelial tissues present on the inner surface of bronchioles and fallopian tubules are _____.

a) Squamous

b) Ciliated

c) Glandular

d) Cuboidal

(xxxvii) Oxygen is mainly transported as _____.

a) Oxyhemoglobin

b) Hemo-oxyglobin

c) Hemoglobin

d) Oxynoglobin

(xxxviii) The oxygen toxicity is related to _____

a) Blood poisoning

b) Failure of ventilation of lungs

c) Collapsing of alveolar wall

d) Improper functioning of alveoli

(xxxix) Opening to the trachea is covered by a small flap of tissues termed as the _____.

a) Glottis

b) Trachea

c) Epiglottis

d) Larynx

(xl) Asphyxia occurs due to

a) Rise in level of CO₂

b) Fall in level of CO₂

c) Rise of O₂ level

d) Fall in O₂ level

(xli) Portal system is present between

a) Two veins

b) Two arteries

c) Vein and artery

d) Two capillary plexus

(xlii) Which is the thickest layer in the arteries?

a) Tunica intima

b) Tunica media

c) Tunica adventitia

d) All layers of equal thickness

(xliii) QRS wave in ECG represents

a) Auricular systole

b) End of ventricular systole

c) ventricular diastole

d) ventricular systole

(xliv) Which is called secondary pacemaker of Heart?

a) SA node

b) AV node

c) Purkinje fiber

d) Bundle of His

(xlv) Circle of Willis present in

a) Coronary Circulation

b) Cerebral Circulation

c) Hepatic Circulation

d) Systemic Circulation

(xlvi) Integumentary system is made up of

a) Skin, heart, nails, bone

b) Skin, nails, hair, bone

c) Skin, hair, nail

d) Skin, kidney, hair, nail

(xlvii) The outermost layer of the skin is called?

a) Stratum lucidum

b) Stratum corneum

c) Stratum germi

d) Stratum spinosum

(xlviii) Arrector pilorum is a

a) Skeletal muscle

b) Smooth muscle

c) Cardiac muscle

d) Mixture of skeletal and smooth muscle

(xlix) If a person ascend to high altitude experience the problem

- a) HAPE
- b) Cyanosis
- c) Nitrogen toxicity
- d) None of these

(l) Which of the following does not act as a neurotransmitter?

- a) Acetylcholine
- b) Epinephrine
- c) Nor epinephrine
- d) Cortisone

(li) Events of reflex actions include all the following, except :-

- a) Stimulation of sensory receptors
- b) Stimulation of central synapses
- c) Inhibition of sensory receptors
- d) Inhibition of central synapses

(lii) Which of the following nerve is purely motor nerve?

- a) Trigeminal
- b) Vagus
- c) Facial
- d) Abducent

(liii) Which of the following is toughest?

- a) Piamater
- b) Arachnoid
- c) Dura mater
- d) None of these

(liv) Permeability of which of the following increases during depolarization?

- a) Na⁺
- b) K⁺
- c) Mg⁺
- d) Ag⁺

(lv) Anosmia, an olfactory disorder is caused by

- a) genetic disorders
- b) head injuries or the aftereffects of nasal cavity inflammation
- c) loss of gustatory epithelial cells
- d) vagus nerve damage

(lvi) Rotational movement of the head is monitored by receptors located in the

- a) utricle
- b) Cochlear duct

c) saccule

d) Semicircular canals

(lvii) The receptors for sound reception and equilibrium are located in the

a) outer ear cavity

b) inner ear cavity

c) middle and inner ear cavities

d) outer, middle, and inner cavities

(lviii) The optic disc on the retina is

a) the area of greatest visual acuity

b) where the optic nerve leaves the eye

c) the same as the macula lutea

d) a dense collection of rod cells

(lix) As a rule, the only special sense not fully functional at birth is

a) taste

b) smell

c) vision

d) audition

(lx) Which of the following would NOT be found in the outer ear?

a) hair

b) sebaceous glands

c) pharyngotympanic tube

d) modified sweat glands