



BRAINWARE UNIVERSITY

Term End Examination 2025-2026

Programme – B.Sc.(PA)-2022/B.Sc.(PA)-2023/B.Sc.(PA)-2024/B.Sc.(PA)-2025

Course Name – Human Physiology- Part II

Course Code - BPAC202

(Semester II)

Full Marks : 60

Time : 2:30 Hours

[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 15=15

1. Choose the correct alternative from the following :

- (i) Identify the location of fat absorption take place.
 - a) Liver.
 - b) Ileum.
 - c) Small Intestine.
 - d) Jejunum.
- (ii) Predict Elastase acts on.
 - a) Carboxyl sides of aromatic amino acids.
 - b) Carboxyl sides of aliphatic amino acids.
 - c) Carboxyl sides of neutral amino acids.
 - d) Carboxyl sides of basic amino acids.
- (iii) Mention Enteropeptidase secretes from.
 - a) Pancreas.
 - b) Intestinal mucosa.
 - c) Saliva.
 - d) Gastric mucosa.
- (iv) Select the chemical which activate Pepsin.
 - a) Cl.
 - b) HCl.
 - c) K⁺
 - d) Ca²⁺
- (v) Identify which one of the following pair of organs includes only the endocrine glands.
 - a) Thymus and testes.
 - b) Adrenal and ovary.
 - c) Pancreas and parathyroid.
 - d) Adrenal and parathyroid.
- (vi) Mark the mismatch pair:
 - a) Henle's loop – concentration of urine
 - b) DCT – Absorption of glucose
 - c) PCT – Absorption of sodium and potassium ions
 - d) Bowman's capsule – Glomerular filtration
- (vii) Select the normal value of GFR is-
 - a) 180 ml/Day
 - b) 125 ml/min
 - c) 140 ml/min
 - d) 100 ml/min
- (viii) Select from the following results from the action of parathyroid hormone (PTH) on the renal tubule?
 - a) Inhibition of 1 α -hydroxylase
 - b) Stimulation of Ca²⁺ reabsorption in the distal tubule

- c) Stimulation of phosphate reabsorption in the proximal tubule d) Interaction with receptors on the luminal membrane of the proximal tubular cells
- (ix) Predict the effect of estrogen on the menstrual cycle.
- a) Stimulates ovulation. b) Inhibits the growth of the uterine lining.
- c) Promotes the growth of the uterine lining. d) Increases the production of progesterone.
- (x) Write the name of the hormone that stimulates milk production in the breasts.
- a) Estrogen b) Progesterone
- c) Oxytocin d) Prolactin
- (xi) Indicate the receptor responsible for the perception of smell.
- a) Gustatory receptor. b) Olfactory receptor.
- c) Photoreceptor. d) Auditory receptor.
- (xii) Differentiate between rods and cones.
- a) Rods are responsible for color vision, while cones are responsible for black and white vision. b) Rods are located in the center of the retina, while cones are located in the periphery.
- c) Rods are more sensitive to light, while cones are responsible for high acuity vision. d) Rods are only found in the fovea, while cones are found throughout the retina.
- (xiii) Predict the effect of increased sympathetic nervous system activity on the pupil.
- a) Constriction of the pupil b) Dilation of the pupil
- c) No effect on the pupil d) Blurring of vision
- (xiv) Differentiate what causes a "Right Shift" in the Oxygen-Hemoglobin Dissociation Curve:
- a) Decreased temperature and increased pH. b) Increased temperature, decreased pH (Bohr Effect), and increased DPG.
- c) Increased affinity of hemoglobin for oxygen. d) Presence of Carbon Monoxide (CO).
- (xv) Identify the brain region responsible for the "Pneumotaxic center," which limits the duration of inspiration:
- a) Medulla Oblongata. b) Cerebral Cortex.
- c) Pons. d) Hypothalamus.

Group-B

(Short Answer Type Questions)

3 x 5=15

2. Describe the significance of O₂ dissociation curve. (3)
3. Tabulate the composition of Gastric juice. (3)
4. Enumerate the role of Salivary juice in digestion. (3)
5. Describe a short note on Juxtaglomerular apparatus. (3)
6. Compare the significance of thyroid and parathyroid hormones in calcium homeostasis. (3)

OR

- Analyze the regulation process of parturition. (3)

Group-C

(Long Answer Type Questions)

5 x 6=30

7. Compare the function of lung surfactant in protecting lung structure. (5)
8. Compare the functions of the salivary glands and the pancreas in carbohydrate digestion process. (5)
9. Describe the process of synthesis of HCl with functions. (5)
10. Differentiate the functions between T₃ and T₄ hormones produced by the thyroid gland. (5)
11. Illustrate the non excretory functions of the nephron in the kidney. (5)
12. Distinguish between the processes of filtration, reabsorption in renal physiology. (5)

OR

- Illustrate the stages of menstrual cycle. (5)