



## BRAINWARE UNIVERSITY

Term End Examination 2024-2025

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

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) Choose the respiratory centre
  - a) In the Medulla
  - b) In the cerebral cortex
  - c) Basal ganglia
  - d) Cerebellum
- (ii) In the hemoglobin-O<sub>2</sub> dissociation, the right shift from can be interpreted as
  - a) increased pH
  - b) decreased 2,3-diphosphoglycerate (DPG)
  - c) carbon monoxide (CO) poisoning
  - d) fetal hemoglobin (HbF)
- (iii) An infant born prematurely in gestational week 25 has neonatal respiratory distress syndrome. Select the following would be expected in this infant?
  - a) Arterial PO<sub>2</sub> of 100 mm Hg
  - b) Collapse of the small alveoli
  - c) Increased lung compliance
  - d) Normal breathing rate
- (iv) Select the following is transported in intestinal epithelial cells by a Na<sup>+</sup>-dependent cotransport process?
  - a) Fatty acids
  - b) Triglycerides
  - c) glucose
  - d) Alanine
- (v) Identify the site of secretion of gastrin?
  - a) Gastric antrum
  - b) Gastric fundus
  - c) Duodenum
  - d) Ileum
- (vi) Identify the pH of the saliva?
  - a) 3-5
  - b) 7-8
  - c) 5.5-6.2
  - d) 6.2-7.4
- (vii) Indicate fat absorption takes place in

- a) Liver  
c) Small Intestine
- (viii) Identify Trypsin is activated by  
a) Cl  
c) Enteropeptidase
- (ix) Summarize Integumentary system is made up of  
a) Skin, heart, nails, bone  
c) Skin, hair, nail
- (x) Identify hair are not present in following areas except:  
a) Palm  
c) Dorsal surface of distal phalanges
- (xi) Identify the toxic agents present in food which interfere with thyroxine synthesis lead to the development of \_\_\_\_\_  
a) Toxic goitre  
c) Simple goitre
- (xii) Identify the male reproductive hormone?  
a) Estradiol  
c) Inhibin
- (xiii) Select which of the following is not related to abnormality of GH?  
a) Dwarfism  
c) Development of all tissue
- (xiv) Examine the person is dehydrated, hypotonic fluid will be found in the:  
a) glomerular filtrate  
c) loop of Henle
- (xv) Indicate the receptor responsible for the perception of taste  
a) Olfactory receptor  
c) Gustatory receptor
- b) Ileum  
d) Jejunum
- b) HCl  
d) Pepsin
- b) Skin, nails, hair, bone  
d) Skin, kidney, hair, nail
- b) Sole  
d) Dorsal surface of middle phalanges
- b) Cretinism  
d) Thyrotoxicosis
- b) Testosterone  
d) Estrogen
- b) Cretinism  
d) Giantism
- b) proximal tubule  
d) distal convoluted tubule
- b) Photoreceptor  
d) Auditory receptor

### Group-B

(Short Answer Type Questions)

3 x 5=15

2. Define Glomerular filtration rate (GFR) with normal value. (3)
3. Conclude the significance of Lung function Test. (3)
4. Enumerate the role of Salivary juice in digestion. (3)
5. Explain the symptoms of type 2 diabetes. (3)
6. Compare the types of lung volumes. (3)

OR

Conclude the significance of Vital capacity. (3)

### Group-C

(Long Answer Type Questions)

5 x 6=30

7. Explain the process of the digestion of fats. (5)
8. Illustrate the role of the hypothalamus-pituitary-thyroid axis in regulating thyroid hormone production. (5)
9. Explain the role of parathyroid hormone and Calcitonin in regulation of Calcium homeostasis. (5)
10. Explain the non excretory functions of kidney. (5)

11. Illustrate the stages of menstrual cycle. (5)  
12. Estimate the lung volumes and lung capacities. (5)

OR

Illustrate the mechanisms of oxygen transport in the blood, including the role of hemoglobin. (5)

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