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## BRAINWARE UNIVERSITY

Term End Examination 2023

Programme – B.Sc.(PA)-2022

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) Match Chymotrypsin breaks
- |  |  |
|--|--|
| a) carboxyl sides of neutral amino acids | b) cleave peptide bonds on carboxyl side of aromatic amino acids |
| c) carboxyl sides of basic amino acids   | d) peptide bonds on carboxyl side of amino acids                 |
- (ii) Choose which muscle take part in rapid breathing-
- |                                   |  |
|-----------------------------------|--|
| a) Muscles of rib cage            | b) Muscles of neck region and abdominal region |
| c) Thoracic and abdominal muscles | d) Muscles of neck region and thoracic region. |
- (iii) Determine 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)  |
- (iv) The clusters of cells in the pancreas that produce hormones are interpreted as
- |                       |                         |
|-----------------------|-------------------------|
| a) Nodules            | b) Islets of Langerhans |
| c) Pancreatic medulla | d) Pancreatic cortex    |
- (v) Name the cell by which Oxygen is carried by \_\_\_\_\_
- |                 |               |
|-----------------|---------------|
| a) Platelets    | b) Leucocytes |
| c) Erythrocytes | d) Monocytes  |
- (vi) Identify the non respiratory function of lungs
- |  |                              |
|--|------------------------------|
| a) CO <sub>2</sub> and O <sub>2</sub> exchange | b) Secretion of ACE          |
| c) Pulmonary ventilation                       | d) Regulation of ventilation |

- (vii) Indicate Internal respiration occurs at the  
 a) nasal and oral cavity  
 b) alveolar membranes  
 c) bronchioles  
 d) cellular membranes
- (viii) Predict chemoreceptors monitor the level of gases we inspire and can be found in all these areas except the  
 a) carotid bodies  
 b) nose  
 c) aortic arch  
 d) brain
- (ix) Indicate the function of trachea.  
 a) Releases air out of the body  
 b) Carries air to lungs  
 c) Exchange of gas  
 d) Filters air we breathe
- (x) 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)
- (xi) Hypoxemia is associated with hyperventilation by a direct effect on the  
 a) phrenic nerve  
 b) lung stretch receptors  
 c) medullary chemoreceptors  
 d) carotid and aortic body chemoreceptors
- (xii) Omit from the following is NOT the salivary protein.  
 a) Lysozyme  
 b) Mucus  
 c) Phosphatase  
 d) Amylase
- (xiii) Select the area pancreatic juice which aids digestion is secreted into?  
 a) Liver  
 b) Duodenum  
 c) Jejunam  
 d) Ileum
- (xiv) Indicate Synthesis of bile takes place in  
 a) Liver  
 b) Pancreas  
 c) Small intestine  
 d) Gall bladder
- (xv) Select which of the following digestive juices has the minimum pH value?  
 a) Oral cavity  
 b) Oesophagus  
 c) Stomach  
 d) Ileum

### Group-B

(Short Answer Type Questions)

3 x 5=15

2. Illustrate the components of lung surfactant (3)
3. Mention the significance of Spirometer (3)
4. Tabulate the composition of pancreatic juice (3)
5. Explain the role of Calcitonin in regulation of Calcium homeostatsis (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. Compare the hormonal regulation of lactation and the milk ejection reflex (5)
8. Illustrate the mechanisms of oxygen transport in the blood, including the role of hemoglobin. (5)
9. Compare the histological structures and GI tract (5)
10. Diffrentiate between salivary juice nad pancreatic juice (5)

- 11. Explain the process of parturition (5)
- 12. Illustrate the stages of menstrual cycle (5)

**OR**

Compare the common causes of infertility in both males and females (5)

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