



BRAINWARE UNIVERSITY

Term End Examination 2022
Programme – B.Sc.(FND)-Hons-2022
Course Name – Human Physiology I
Course Code - BFNC102
(Semester I)

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) Name the individual who did coin the term 'cell' ?

- | | |
|-----------------|------------|
| a) Robert Hooke | b) Tatum |
| c) Schwann | d) De Bary |

(ii) Name a major component of plant cell wall.

- | | |
|------------|--------------|
| a) Protein | b) Cellulose |
| c) Lipid | d) Starch |

(iii) Indicate the component of the plasma membrane responsible for increasing the membrane fluidity.

- | | |
|--|--|
| a) Increase in unsaturated fatty acids in the membrane | b) Increase in saturated fatty acids in the membrane |
| c) Increase in glycolipid content in the membrane | d) Increase in phospholipid content in the membrane |

(iv) Identify from among the options the type of cell with least constancy of shape.

- | | |
|----------------------|---------------------|
| a) Blood platelets | b) Epithelial Cells |
| c) White Blood Cells | d) Red blood Cells |

(v) Write the average life span of human Red blood Cells.

- | | |
|-------------|----------------------|
| a) 90 days | b) 100 days |
| c) 120 days | d) None of the above |

(vi) Predict the most appropriate statement(s) as part of the explanation for this statement 'Adult human RBCs are enucleated'.

- | | |
|---|---------------------------|
| a) Their internal space is available for oxygen transport | b) They are somatic cells |
| c) They do not need to reproduce | d) They do not metabolise |

(vii) Calculate the cardiac output with the following data: heart rate 70bpm, stroke volume 70ml.

- a) 5l
c) 4.9l
- b) 5ml
d) 4.8ml
- (viii) Identify the reason why the SA node (sino-atrial node) is the natural pacemaker is
- a) generates an action potential which is more in size than other parts of the conducting system
c) located in the right atrium
- b) only part of the conducting system generating impulse
d) generates the highest number of action potentials in the conducting system
- (ix) Write the condition where plaque builds up on the inside of arteries.
- a) Arthrocentesis
c) Arthritis
- b) Arthralgia
d) Atherosclerosis
- (x) Who carries deoxygenated blood to the lungs from the right ventricle.
- a) Pulmonary artery
c) Aorta
- b) Pulmonary vein
d) None of the above
- (xi) Identify the possible breathing rate (per min) in an adult human.
- a) 78
c) 72
- b) 15
d) 120
- (xii) Write the name of organs that functions as an air conditioner?
- a) Larynx
c) Nasal chambers
- b) Pharynx
d) All of the above
- (xiii) Select the name of yellow pigment that is formed after dead blood cells are processed in the liver. It is also primarily responsible for the yellow colour of urine?
- a) Zeaxanthin
c) Carotenoids
- b) Urochrome
d) None of the above
- (xiv) Write the activity of Atrial Natriuretic peptide (ANP)?
- a) inhibits aldosterone and ADH secretion
c) decreases reabsorption of sodium
- b) decreases reabsorption of water
d) all of these
- (xv) Justify the following parts of the brain regulates the respiratory process?
- a) The vagus nerve
c) Medulla oblongata
- b) Cerebral peduncle
d) Cerebellum

Group-B

(Short Answer Type Questions)

3 x 5=15

2. Explain the factors affecting blood pressure (3)
3. What is the function of hemoglobin? (3)
4. Explain the process of body temperature regulation. (3)
5. Chart the composition of blood. (3)
6. Report the role of membrane in transport and communication. (3)

OR

Justify, how thrombocytes necessary for blood coagulation? (3)

Group-C

(Long Answer Type Questions)

5 x 6=30

7. Explain the process of blood coagulation (5)
8. Explain cardiac cycle. (5)
9. Define the term - TV,RV,IRV,EC & ERV. (5)
10. Distinguish between neural and chemical control of breathing. (5)
11. Classify different types of teeth (5)

OR

(5)

Distinguish between pulse pressure and mean pressure.

(5)

12. Justify considering Rh factor in pregnancy.

OR

(5)

Compare among different waves in ECG.

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