



BRAINWARE UNIVERSITY

Term End Examination 2022

Programme – B.Sc.(PA)-2022

Course Name – Human Physiology- Part I

Course Code - BPAC102

(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) Select the source of thromboplastin
- | | |
|---------------|--|
| a) RBC | b) Blood plasma |
| c) Leucocytes | d) Clumped platelets and damaged tissues |
- (ii) Choose the rarest blood group
- | | |
|----------------|----------------|
| a) AB negative | b) AB positive |
| c) O negative | d) O positive |
- (iii) Choose the correct statement for component that is used for staining of blood
- | | |
|-------------------|--------------------|
| a) Methylene blue | b) Leishman stain |
| c) Safranin | d) Carbol fuchsine |
- (iv) Select active transport process
- | | |
|----------------------|---------------------|
| a) glucose symporter | b) Na-K ATPase pump |
| c) anion pump | d) Cl pump |
- (v) Identify Hyperpolarization
- | | |
|---|--|
| a) negative potential greater than resting membrane potential | b) negative potential less than resting membrane potential |
| c) less than repolarization | d) None of these |
- (vi) Select the type of water transport process in nephron
- | | |
|----------------------|----------------------|
| a) passive diffusion | b) Aquaporin channel |
| c) active transport | d) osmosis |
- (vii) Identify Babinski's sign
- | | |
|--|--|
| a) dorsal plantar aspect of the foot leads to extension (dorsiflexion or upward movement) of the big toe (hallux). | b) anterior plantar aspect of the foot leads to extension (dorsiflexion or upward movement) of the big toe (hallux). |
| c) lateral plantar aspect of the foot leads to flexion(dorsiflexion or upward movement) of the big toe (hallux). | d) lateral plantar aspect of the foot leads to extension (dorsiflexion or upward movement) of the big toe (hallux). |
- (viii) Identify function of Botulinum toxin
- | | |
|-------------------------------------|-------------------------------------|
| a) enhance neurotransmitter release | b) inhibit neurotransmitter release |
|-------------------------------------|-------------------------------------|

- c) inhibit muscle relaxation
 (ix) The brain stem is composed of _____
 a) Spinal cord
 c) Medulla pons and middle brain tissue
 (x) Write the secondary pacemaker of Heart?
 a) SA node
 c) Purkinje fiber
 (xi) Circle of Willis is constructed in
 a) Coronary Circulation
 c) Cerebral Circulation
 (xii) Select the Bell- Magendie law
 a) During any reflex activity, impulses are transmitted in only reversible direction through the reflex arc
 c) During any reflex activity, impulses are transmitted in sensory to motor direction through the reflex arc
 (xiii) Compare the Flechsig tract starts from
 a) lower lumbar and sacral segments of spinal cord
 c) dorsal nucleus of Clarke gray matter of the spinal cord
 (xiv) Fast pain sensation is correlated with
 a) A1 type afferent fibers
 c) C type afferent fibers
 (xv) Broca's area in the left cerebral hemisphere is related to
 a) Speech
 c) Recognition of words
- d) inhibit splasticity
 b) Axon and vertebra
 d) Cerebellum and Medulla
 b) AV node
 d) Bundle of His
 b) Systemic Circulation
 d) Hepatic Circulation
 b) During any reflex activity, impulses are transmitted in only one direction through the reflex arc
 d) During any reflex activity, impulses are transmitted in only motor to center direction through the reflex arc
 b) cortex of anterior lobe of cerebellum
 d) lateral white column of the spinal cord along the lateral periphery
 b) A2 type afferent fibers
 d) B type afferent fibers
 b) Learning and memory
 d) Smell sensation

Group-B

(Short Answer Type Questions)

3 x 5=15

2. Explain the principle of ECG (3)
3. Explain the principle of ABO blood grouping. (3)
4. Correlate the functions of Basal nuclei with Parkinson's disorder. (3)
5. Write down the significance of volume changes during the cardiac cycle with a detailed illustration. (3)
6. Write down the steps of Erythropoiesis with the figure. (3)

OR

A person lost 50% (3 liters) of his type-A blood. There is only type-O blood available for transfusion. Transfusion is performed with 3 liters of type O blood. Is it causing any problems? If can, what is the problem? Justify with reason. (3)

Group-C

(Long Answer Type Questions)

5 x 6=30

7. Explain the formation and circulation of CSF. (5)
8. Define reflex arc with an example. (5)
9. Write down the origin and termination of Lateral spinothalamic tract. (5)
10. Classify reflex arc with examples. (5)
11. Correlate the composition and function of CSF. (5)
12. Why Lumbar puncture test has been performed? Summarize the clinical significance. (5)

OR

Summarize the functions of the Cerebellum. (5)
