

## **FIRST YEAR BSC PERFUSION TECHNOLOGY**

### **PHYSIOLOGY**

#### **ESSAYS (10 MARKS)**

1. Discuss the properties of synapse and add a note on reflex action
  - Diagram
  - Properties
  - Reflex action
2. Define GFR add a note on factors affecting GFR
  - Definition
  - Factors affecting
3. Discuss the composition functions and regulation of gastric juice secretion
  - Composition
  - Function
  - Regulation
4. Enumerate the ascending and descending tracts in the spinal cord add a note on cerebral cortex lobe with functions
  - Diagram
  - Definition
  - Functions
5. Write down the composition of CSF. How is it formed and where are its functions. Add a note on lumbar puncture
  - Composition
  - Function
  - Formation
  - Lumbar puncture
6. Name the hormone secreted from endocrine pancreas write down the physiological actions and regulations of hypoglycemic hormones
  - Hormones
  - Functions
  - Regulation

7. Define anemia. Discuss the morphological and etiological classification of anemia
  - Definition
  - Classifications
8. Define cardiac output. Describe the left ventricular pressure curves
  - Definition
  - Diagram
9. Define arterial blood pressure. Write down the normal values. Describe how will you measure blood pressure clinically.
  - Definition
  - Normal values
  - Procedure
10. What are the forms in which oxygen is transported in our body. Describe the mechanism of transport and importance of oxygenation of Hb.
  - Types
  - Mechanism
  - Diagram
11. Define hemostasis. Describe the different steps of coagulation. Add a note on disorders of clotting factors.
  - Definition
  - Steps
  - Disorders
12. Trace the pyramidal tract from its origin to termination. What are its functions.
  - Diagram
  - Pathway
  - Functions
13. What is the physiological basis of blood group system. Mention the important indication of blood transfusion. Describe the effects of mismatched blood transfusion. How will you prevent it.
  - Definition
  - Indications
  - Effects of mismatching

- Prevention methods
14. Describe how respiration is regulated. Add a note on herring bruer reflex.
- Regulation
  - Features
15. Explain the functions of thyroxine and describe its synthesis. Add a note on hypothyroidism in adults.
- Functions
  - Synthesis
  - Features
16. Mention the normal blood volume and describe how it is regulated. Add a note on determination of blood volume.
- Normal volume
  - Regulation
17. Define GFR mention its normal value explain the factors affecting GFR
- Definition
  - Normal value
  - Factors
18. Name the bodyfluids compartments. Mentioning their normal values. Mention briefly about its regulation
- Types
  - Normal value
  - regulation
19. Define what are diuresis. Mention the mechanism of reabsorption of water. Different segments of nephron. Add a note on diuretics.
- Definition
  - Mechanism
  - Parts

### **SHORT NOTES (5 MARKS)**

1. Stages of erythropoiesis
  - Stages
2. Normal electrocardiogram
  - Diagram
3. Composition and regulation of gastric juice secretion
  - Composition
  - Regulation
4. Transport of oxygen
  - Diagram
  - Transport
5. Posterior pituitary hormones
  - Types
6. Taste buds
  - Diagram
  - Types
7. Blood indices
  - Types
8. Properties of cardiac muscle
  - Properties
9. Hypoxia
  - Definition
10. Cerebrospinal fluid
  - Definition
  - Classification
11. Counter current system in nephrons
  - Diagram

- Pathway
- 12. Rh incompatibility
  - Definition
- 13. Artificial respiration
  - Definition
  - Method
- 14. Functions of liver
  - Functions
- 15. JGA
  - Diagram
- 16. Regulation of gastric juice secretion
  - Regulation
- 17. ESR
  - Diagram
  - Method
- 18. Heart sounds
  - Classification
- 19. Deglutition
  - Diagram
  - Method
- 20. Neural regulation of respiration
  - Regulation
- 21. Physiological functions of thyroid hormones
  - Functions
- 22. Excitation contraction coupling in skeletal muscles
  - Diagram
  - Method

23. Anticoagulants
  - Classification
24. Name the hormones of adrenal cortex explain the action of any one hormone
  - Classification
  - Actions
25. Jugular venous pressure
  - Definition
26. Plasma proteins and their functions
  - Types
  - Functions
27. Neuromuscular junction in skeletal muscles
  - Diagram
  - Features
28. Functions of hypothalamus
  - Functions
29. Erythropoiesis
  - Stages
30. Gastric secretions
  - Types
31. Mechanism of smell
  - Pathway
  - Diagram
32. Parathyroid hormones
  - Types
  - Functions
33. Leucocytes
  - Types
  - Functions

34. Plasma proteins
  - Types
35. Functions of liver
  - Functions
36. Diabetes mellitus
  - Definition
  - Types
37. Neuromuscular transmission
  - Diagram
  - Pathway
38. Functions of cerebellum
  - Functions
39. Endocrine functions of hypothalamus
  - Functions
40. Hypersecretions of thyroid hormones
  - Diseases
41. GFR
  - Definition
  - Normal value
42. Spermatogenesis stages and factors influencing
  - Stages
  - Factors
43. Pain pathway
  - Diagram
  - Pathway
44. Chemical regulation of respiration
  - Regulation
  - Factors

**ANSWER BRIEFLY (3 MARKS)**

1. Neuroglia
2. JGA
3. Pregnancy test
4. Neuromuscular junction
5. Composition and function of lymph
6. Triple response
7. Second stage of deglutition
8. Surfactant
9. Regulation of thyroid hormone secretion
10. Ovulation
11. Structure of retina
12. Innervation of bladder
13. Jaundice
14. Function of testis
15. Sarcomere
16. Fever
17. Lactation
18. Glucagon
19. Intra pleural pressure changes during respiration
20. Artificial respiration
21. Rigor mortis
22. Osmotic diuresis
23. Hypoxic properties of cardiac muscle

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