

01/07/2024

**BLDE (DEEMED TO BE UNIVERSITY)**

**M.Sc. Allied Health Sciences (Medical Physiology)**

[Time: 3 Hours]

[Max.Marks:80]

**III SEMESTER**

**PAPER – I (General Physiology)**

**QP CODE: 9031**

Your answer should be specific to the questions asked.

Write Question No. in left side of margin.

**Long Questions**

**10X3 = 30 Marks**

1. Describe the structure of mammalian cell with a neat, labelled diagram. Write the functions of mitochondria.
2. Classify body fluid compartments. Write their ionic composition and methods to measure.
3. Describe various mechanisms of transport across cell membrane.

**Short Essays:**

**5 X 10 = 50 Marks**

4. Define homeostasis. Discuss the negative regulatory mechanism of homeostasis with example.
5. Define osmosis and diffusion. Add a note on facilitated diffusion.
6. Define action potential. Describe briefly the sequence of events during its development with a neat, labelled diagram.
7. Draw a neat, labelled diagram of Na<sup>+</sup> - K<sup>+</sup> ATPase pump and describe its action.
8. What are intercellular junctions? Give examples with diagram.
9. Describe the structure of cell membrane with a neat, labelled diagram.
10. Draw a neat, labelled diagram of Golgi complex and write its functions.
11. What are lysosomes? Discuss the functions of lysosomes.
12. Define apoptosis. What is the physiological significance of apoptosis?
13. Describe Gibbs Donnan membrane equilibrium.

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**III SEMESTER**

**PAPER – II (Nerve Muscle Physiology)**

**QP CODE: 9032**

Your answer should be specific to the questions asked.  
Write Question No. in left side of margin.

**Long Questions**

**10X3 = 30 Marks**

1. Describe action potential and its properties in smooth muscle.
2. Describe the structure of neuromuscular junction. Give sequence of events at NMJ during transmission of nerve impulse.
3. Describe the Erlanger Gasser's classification of nerve fibers and physiological properties of nerve fibers in detail.

**Short Essays:**

**5 X 10 = 50 Marks**

4. Describe briefly the myelinated and unmyelinated nerve fibers.
5. Describe the pathophysiology of myasthenia gravis. Add note on common features and treatment.
6. Describe isotonic and isometric muscle contractions.
7. What is sarcomere? Explain with neat diagram.
8. Describe rigor mortis.
9. Define Refractory period. What are its types?
10. Describe the strength duration curve with the help of neat diagram.
11. Describe the sequence of events in excitation contraction coupling, which is the coupling agent.
12. Describe graded potential with ionic basis.
13. What are sub thresh hold, threshold, supra threshold stimuli?

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## M.Sc. Allied Health Sciences (Medical Physiology)

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### III SEMESTER

#### PAPER – III (Blood and Immune System)

QP CODE: 9033

Your answer should be specific to the questions asked.

Write Question No. in left side of margin.

#### Long Questions

10X3 = 30 Marks

1. What is immunity? Discuss about types of immunity with suitable examples
2. What is erythropoiesis? With the help of neat & labeled diagrams, discuss various stages of erythropoiesis. Add a note on the factors influencing it
3. Explain the structure, synthesis, functions & break down of hemoglobin

#### Short Essays:

5 X 10 = 50 Marks

4. Humoral Immunity
5. Functions of plasma proteins
6. Diagrams to depict the structure of agranulocytes. Discuss about their characteristics, functions & their abnormal counts in diseased conditions
7. Platelet: Structure, Normal count, Functions & variations in their counts in diseased conditions
8. What are anticoagulants? Give their classification with suitable examples. Mention their uses
9. What is meant by leucopoiesis? Discuss about the factors influencing it
10. Rh Factor & its clinical significance
11. What is meant by Reticulo-endothelial system? Mention its functions
12. Explain various blood indices & their clinical significance
13. List the clotting factors. Explain the properties of any THREE of them