

**RAMAKRISHNA MISSION VIVEKANANDA EDUCATIONAL AND RESEARCH INSTITUTE****NARENDRAPUR CAMPUS**

(Deemed-to-be University declared by Govt. of India under Section 3 of UGC Act, 1956)

Head Quarter: Belur Math, Howrah, West Bengal: 711202

(Accredited by NAAC with A++ Grade)

**Department of Biomedical Science and Technology | School of Biological Science**

Ramakrishna Mission Ashrama, Narendrapur, Kolkata-700103

**For Office Use Only**

Question Nos.	Max. Marks	Marks Obtained
<b>SECTION-A: A.01—A.15</b> (Page Nos. 03-05)	<b>30</b>	
<b>SECTION-B: B.01—B.06</b> (Page Nos.06-08)	<b>30</b>	
<b>TOTAL</b>	<b>60</b>	

**ENTRANCE EXAMINATION FOR****ADMISSION TO M.Sc. IN EMERGENCY MEDICINE & CRITICAL CARE TECHNOLOGY– 2026**

(Model Question)

<b>Maximum Marks:</b> 60	<b>SECTION-A:</b> 2 marks each
<b>Duration:</b> 2 Hours	<b>SECTION-B:</b> 5 marks each

**INSTRUCTIONS**

1. ALL questions are **COMPULSORY**.
2. The question paper consists of two sections: Section-A (Short Answer Type Questions) and Section-B (Descriptive Type Questions).
3. Section-A carries 2 marks each. Answers should be brief and precise -not exceeding 60–80 words per answer.
4. Section-B carries 5 marks each. Write focused, organized answers -not exceeding 200–250 words per answer.
5. Question Distribution: Section-A includes 15 short-answer questions, and Section-B includes 6 descriptive questions.
6. Candidates must write their answers only in the space provided. **No additional sheets will be supplied.**
7. The use of **calculators, electronic devices, or any reference materials is strictly prohibited.**
8. Marks will be awarded based on: Clarity of expression, Relevance of content, Use of appropriate examples (where applicable) and Correct terminology.

**(To be filled by the Candidates)**

<b>Name</b>	
<b>Signature</b>	
<b>Application ID</b>	

Invigilator's Signature:

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**SPACE FOR ROUGH WORK**

## SECTION -A: SHORT ANSWER QUESTIONS

A.01. What is the function of the diaphragm?

A.02. Name the chambers of the human heart.

A.03. What is the function of alveoli in the lungs?

A.04. What is acidosis?

A.05. What is the role of hemoglobin?

A.06. Define inflammation.

A.07. Differentiate between infection and infestation.

A.08. Define sterilization.

A.09. Mention the principle of pulse oximetry.

A.10. What is the purpose of an ECG machine?

A.11. Define arterial blood gas (ABG) analysis.

A.12. Mention the normal pH range of arterial blood.

A.13. Define quality control in laboratory practice.

A.14. What is medical negligence?

A.15. Why is oxygen essential for cellular respiration?

## **SECTION -B: DESCRIPTIVE QUESTIONS**

B.01. Describe the anatomy and functions of the respiratory system relevant to critical care practice.

B.02. Describe the principles, maintenance, and safety precautions of biomedical instruments used in ICUs.

B. 03. Discuss the pathogenesis, laboratory diagnosis, and prevention of sepsis.

B.04. During intense exercise, a person experiences muscle cramps. Explain the possible physiological reasons.

B.05. A transplanted kidney is rejected after a few weeks. Explain the immunological basis of graft rejection.

B.06. Explain the ethical principles involved in emergency and critical care management with suitable examples.