

QP CODE : 1022

Rajiv Gandhi University of Health Sciences, Karnataka

MBBS Phase - I (CBME) Degree Examination - 28-Feb-2022

Time: Three Hours
Max. Marks: 100 Marks

PHYSIOLOGY — PAPER - I (RS-4)

Q.P. CODE: 1022
(QP contains two pages)

Your answers should be specific to the questions asked

Draw neat, labeled diagrams wherever necessary

LONG ESSAYS
2x 10 = 20 Marks

1. Define cardiac output. Mention Its normal value. Describe the factors regulating it.
2. How is oxygen carried In blood? Describe oxygen - Hemoglobin **dissociation curve** and factors affecting It.

SHORT ESSAYS
8 x 5 = 40 Marks

3. **What Is normal GFR? Explain the factors regulating it**
4. **Explain Rh incompatibility**
5. **An adult aged 22 years with history of diarrhea and vomiting of one day duration comes to the OPD. On examination the patient was in altered sensorium, BP-low, tachycardia, thready pulse, cold clammy extremities**
 - a) **What is the probable diagnosis?**
 - b) **Explain the reflex that comes into action in the above condition**
6. Describe the intrinsic mechanism of coagulation
7. Explain Phases of gastric acid secretion
8. Describe renal function tests
9. Write composition and functions of saliva
10. Explain chemical regulation of respiration

SHORT ANSWERS
10 x 3 = 30 Marks

11. What Is the basis for resting membrane potential?
12. **Enumerate the cause and features of hemophilia**
13. What is ejection **fraction? Write Its significance**
14. Explain the role of surfactant In lung mechanics
15. Explain the absorption of fat In the small Intestine
16. Define transport maximum for glucose and give normal value
17. What **is the** physiological Importance of mitochondria
18. Enumerate the factors affecting erythropoiesis
19. Draw a neat labelled diagram of Lead II ECG

20. **Give** the physiological importance of Na⁺ / K⁺ pump

10 x 1 = 10 Marks

Multiple Choice Questions

- 21 i) Gastric acid secretion is increased by
- A. Presence of acid in small Intestine
 - B. Presence of chyme in stomach
 - C. Presence of protein breakdown product in small Intestines
 - D. Distension of small bowel
- 21 ii) Dynamic lung volume is
- A. Tidal volume
 - B. Timed vital capacity
 - C. Vital capacity
 - D. Expiratory reserve volume
- 21 iii) Normal platelet count is
- A. 4000-11000 / cu.mm
 - B. 1.5-4L/cu.mm
 - C. 5-6 million/cu.mm
 - D. More than 6 million/cu.mm
- 21 iv) In Cushing's reflex there is
- A. Increased HR increased BP
 - B. Decreased HR increased BP
 - C. Increased HR decreased BP
 - D. Decreased HR decreased BP
- 21 v) First heart sound
- A. Marks the onset of ventricular systole
 - B. Caused by the closure of atrio ventricular valve
 - C. Best heard over aortic and pulmonary areas
 - D. Characterized by high pitch and sharp sound
- 22 i) Apneustic center is situated in
- A. Pons
 - B. Medulla
 - C. Internal capsule
 - D. Spinal cord
- 22 ii) The normal end diastolic volume is
- A. 80-100 ml
 - B. 100-120 ml
 - C. 120-140 ml
 - D. 140-160 ml
- 22 iii) Site of absorption of vit B12
- A. Duodenum
 - B. Proximal jejunum
 - C. Distal ileum
 - D. Colon
- 22 iv) Inulin has the property of
- A. Partially secreted by the tubules
 - B. Freely filtered at Bowman's capsule
 - C. Partially reabsorbed by the tubules
 - D. Excreted negligibly in urine



22 v) Voluntary control of micturition is under the control of

- A. Pudendal nerve
- B. Pelvic nerve
- C. Hypo gastric nerve
- D. Thoracic nerve

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