**Rajiv Gandhi University of Health Sciences, Karnataka**

**MBBS Phase – I Degree examination – …….**

**Time: Three Hours Max. Marks: 100 marks**

**Physiology – Paper 1 (RS4)**

**Q.P. Code: ……………….**

Your answers should be specific to the question asked

Draw neat labeled diagram wherever necessary

**LONG ESSAYS**  **2 X 10 = 20 marks**

1. Define Cardiac output and mention its normal value. Explain the factors regulating Cardiac output.(2+8)
2. Describe the mechanism of concentration of urine. Explain the role of hormones in producing concentrated urine.(7+3)

**SHORT ESSAYS**  **10 X 5 = 50 marks**

1. Kwashiorkor causes retention of fluid in the arms, lower limbs and face leading to a swollen appearance.

a) Identify the sign and define (2 marks)

b) Analyze the cause for retention of fluid (3 marks)

1. A 30 year old males came with a history of severe burning sensation and pain in the abdomen associated with nausea and vomiting since 1 week. History revealed that the pain was relieved after intake of food. Personal history revealed that he was a chronic smoker and alcoholic.

a) What is probable diagnosis (1mark?)

b) Describe the mechanism of HCl secretion (3 marks?)

c) Explain the basis for use of proton pump inhibitor in the treatment of above condition (1 mark)

1. Define compliance. State its normal value. Name conditions where lung compliance is altered.(1+1+3)
2. Explain with a graph the segments of left ventricle pressure volume loop.
3. Explain the transport of oxygen in arterial blood.
4. Explain the Intrinsic mechanism of coagulation.
5. Explain the physiological basis of oxygen therapy in different hypoxias. What are the side effects of 100% oxygen administration? (3+2)
6. Explain the long term mechanism of regulation of blood pressure
7. Describe the movements of the small intestine
8. Explain the mechanism of Humoral immunity. List the types of immunoglobulins with their functions.(2+3)

**SHORT ANSWERS**  **10 X 3 = 30 marks**

13. Explain how apoptosis is a natural process with the help of one example.

14. Explain the role of plasmin in lysis of blood clot.

15. How does AV nodal blocks appear on ECG?

16. Explain the effect of gravity on the ventilation perfusion ratio

17. Explain why glycosuria is seen at plasma glucose concentration of 180 mg %

18. Account for the elevated levels of serum Amylase in acute panceatitis

19. Describe the structure of glomerular filtration membrane.

20. Enumerate clinical features of hypovoluemic shock.

21. Describe the different components of blood that are used in blood transfusion

22. What constitutes Dead space? What are its types?

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