Rajiv Gandhi University of Health Sciences, Karnataka

MBBS Phase – I (CBME) Degree Examination - 12-Feb-2021

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

PHYSIOLOGY – PAPER- I (RS-4)

Q.P. CODE: 1022

Your answers should be specific to the questions asked
Draw neat, labeled diagrams wherever necessary

LONG ESSAYS **2 x 10 = 20 Marks**

1. Mention the events of a cardiac cycle with their durations. Explain the left ventricular pressure and volume changes during cardiac cycle. (3+7)

2. Name the neural regulatory centers of respiration and explain their role in regulation. Illustrate Cheyne-Stokes breathing. (3+4+3)

SHORT ESSAYS **10 x 5 = 50 Marks**

3. Explain feedback regulation with suitable examples. (2.5+2.5)
4. Describe the effects of mismatched blood transfusion. (5)
5. A 16 year old boy was brought to the hospital with excessive bleeding from an injury in his foot. He had a past history of similar delayed stoppage of bleeding associated with swelling of injured parts following blunt trauma. One of his paternal uncles also had a similar history. Investigation revealed: Hb 14 g/dl, Platelet count 3.5 lakhs/mm3, BT - 5 minutes, CT - 12 minutes.
   a. Mention the probable diagnosis and cause for the same.
   b. Mention the type of inheritance of this disorder.
   c. Name another bleeding disorder with the cause. (2+1+2)
6. Explain the role of complement system in immunity. (5)
7. Explain the role of renin-angiotensin-aldosterone system in BP regulation. (5)
8. List the theories of auto-regulation of blood flow and explain any two. (2+3)
9. Define and classify hypoxia. Explain their causes and treatment. (2+3)
10. Describe the defecation reflex with illustration. (5)
11. Explain the cause for splay in reabsorption of glucose by Nephrons. (5)
12. Define GFR. Explain the factors regulating the same. (1+4)

SHORT ANSWERS **10 x 3 = 30 Marks**

13. List the functions of WBCs. (3)
14. Explain the basis of enhanced immune response to booster doses of vaccine. (3)
15. Mention the symptoms and ECG changes in ischemic heart disease. (2+1)
16. Illustrate and mention the physiological basis of radial pulse tracing. (3)
17. Define functional residual capacity. Mention its normal value and methods for its measurement. (1+1+1)
18. Mention the composition and functions of bile. (1.5+1.5)
19. Define jaundice. Mention the clinical features of obstructive jaundice. (1+2)
20. Mention its cause and treatment of achalasia cardia. (1+1+1)
21. Compare and contrast cortical and juxta-medullary Nephrons. (3)
22. Mention the sites of water reabsorption in Nephrons with its principle. (3)

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