2019 Scheme

Q.P. Code: 113001 **Reg. no.: ……**

First Professional MBBS Degree Supplementary (SAY) Examinations
January 2024
Physiology I

Time: 3 Hours **Total Marks: 100**

- ***Answer all questions to the point neatly and legibly • Do not leave any blank pages between answers • Indicate the question number correctly for the answer in the margin space • Answer all parts of a single question together***
- ***Leave sufficient space between answers • Draw table/diagrams/flow charts wherever necessary***

Long Essays **(2x15=30)**

1. A 55-year-old man who is a chronic smoker was brought to the medical emergency with complaints of breathlessness, wheeze and cough with sputum for the past one week. He gets similar illness during the cold season for the past five years. On examination he has mild cyanosis, wheeze and crepitations. His chest is barrel shaped, RBC count is increased, forced vital capacity (FVC) is decreased and FEV_1 is 60%.
    a) Name the most probable clinical condition
    b) Draw and label a spirogram showing the lung volumes and capacities.
    c) Describe the physiological basis for the changes in RBC count and FVC.
    d) Describe timed vital capacity and its clinical significance (1+4+6+4)
2. Define cardiac cycle. Enumerate the phases of cardiac cycle. With the help of a neat labelled diagram, describe the pressure and volume changes in the ventricles. Write the physiological basis and functional significance of AV nodal delay (1+4+6+4)

Short essays **(5x8=40)**

3. Describe the mechanism of water reabsorption from the renal tubules. Add a note on anuria (6+2)
4. Describe the phases of deglutition. Add a note on Achalasia cardia (6+2)
5. Describe the steps of erythropoiesis using neat, labelled diagrams. List the factors regulating it. (5+3)
6. Enumerate the plasma proteins along with their site of production. Describe their functions. (3+5)
7. Describe the short term regulation of blood pressure.

Write briefly **(5x4=20)**

8. Physiological basis for negative Intrapleural pressure
9. Physiological basis for steatorrhoea in exocrine pancreatic deficiency.
10. What is Hypothermia. Write one clinical application for hypothermia.
11. Physiological basis for anemia in chronic renal failure.
12. Describe the physiological basis for renal splay.

One word Answers **(10x1=10)**

13. Intrinsic factor of castle is produced by ---------- cells.
14. Condition where the platelet count is less than normal being called ----------
15. Strict vegetarians can be prone for ----------type of anemia
16. Defecation after feeding is a rule in children. This is called ----------
17. Hormone stimulating secretion of alkaline pancreatic juice is----------
18. Tall T waves in ECG is indicative of ----------
19. Ideal substance for measuring the GFR is ----------
20. Carbohydrate splitting enzyme present in saliva is----------
21. 'a' wave in JVP is due to ----------
22. Cause for 'Bends' (pain in joints) in deep sea divers is ----------

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