

**Q.P. CODE: MB2019105**  
**KALOJI NARAYANA RAO UNIVERSITY OF**  
**HEALTH SCIENCES**  
**TELANGANA STATE, WARANGAL - 506 002**  
**FIRST MBBS DEGREE SUPPELEMENTARY**  
**EXAMINATIONS: JUNE, 2023**  
**PHYSIOLOGY**  
**PAPER-I**  
**(NEW SCHEME)**

Time: 3 Hours.

Max Marks: 100

Note: Answer all questions.

Give Diagrammatic representation wherever necessary.

**Write an essay on the following: 2 X 15=30**

- 1) A premature infant at 27 weeks gestation develops respiratory distress syndrome which require intubation and surfactant treatment
    - a) What is surfactant: how it is produced? Give its chemical constituents.
    - b) What are the various functions of surfactant?
    - c) What is the physiological basis of treatment with the surfactant in this case.
  - 2) A 60-year-old man with congestive cardiac failure who is on diuretics since last 3 weeks, returns to his physician with the complaints of weakness, fatigue and dizziness.
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Investigation shows hypokalaemia and he is started treatment of potassium which shows improvement in his symptoms.

- a) what are the normal potassium concentration in ECF and ICF?
- b) what is RMP? What is the role of K in its development?
- c) what are the mechanisms of developing the symptoms in this case due to low K concentrations?

**Write a short essay on the following: 8X5=40**

- 3) Define homeostasis. Explain the various homeostatic mechanisms with suitable examples.
- 4) Classify WBCs. Describe the structure and functions of each of the WBCs.
- 5) Give the composition of pancreatic secretion. Add a note function of pancreatic juice.
- 6) Give an account of role of renal tubules in urine formation.
- 7) Define cardiac cycle. Enumerate the events occurring in it. Describe the ventricular events in detail.
- 8) Describe the Extrinsic mechanism of coagulation. Add a note on Hemophilia.
- 9) Define vital capacity. What is its normal value in males and females? Discuss the factors affecting the vital capacity.
- 10) Discuss the rights and duties of patient.

**Write briefly on the following: 10 X 3=30**

- 11) Mention the different methods of measurement of cardiac output.
- 12) Give an account of baroreceptors reflex.
- 13) Enumerate the renal function tests. Describe in detail any one of it.
- 14) Write in short the functions of small intestine.
- 15) Erythroblastosis fetalis.
- 16) Secondary active transport.
- 17) What is nitrogen narcosis? How it is developed?
- 18) What is the role of memory T cells in immunity?
- 19) Write in brief about the role of gut microbes in large intestine.
- 20) Draw a well labelled diagram of ECG in lead II.

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