

- 12) Which of the following is **NOT TRUE** regarding von Willebrand's factor?
- A. Regulates circulating level of factor VIII
 - B. Produced by endothelial cell
 - C. Prevents adhesion of platelets with collagen
 - D. Factor VIII gets activated after separating from it
- 13) Reabsorption of Na^+ from tubular fluid is dependent on a carrier protein situated on apical membrane of ascending limb of Henle
- A. $\text{Na}^+ - \text{K}^+$ pump
 - B. $\text{Na}^+ - \text{Cl}^-$ symporter
 - C. $\text{Na}^+ - \text{K}^+ - 2\text{Cl}^-$ cotransporter
 - D. $\text{Na}^+ - \text{H}^+$ antiporter
- 14) Creatinine is **not ideal** to measure GFR in humans because?
- A. It is toxic
 - B. Some of it is secreted by tubules
 - C. Not freely filtered
 - D. Affects filtration rate
- 15) Protein, after synthesis is stored in :
- A. Golgi apparatus
 - B. SER
 - C. RER
 - D. Mitochondria
- 16) Which of the following is part of the reflex response to an increase in arterial pressure?
- A. Decreased firing of carotid sinus baroreceptors
 - B. Increased sympathetic activity to the ventricles
 - C. Increased parasympathetic activity to the SA Node
 - D. Increased parasympathetic activity to the arterioles of skeletal muscles and skin
- 17) Venous Return :
- A. Increases on standing
 - B. Decreases by deep inspiration
 - C. Decreases by venoconstriction
 - D. When increased, activates Bainbridge reflex

- 18) Decompression sickness :
- A. Results from CO₂ bubbles in the body fluids
 - B. Can be prevented by rapid decompression
 - C. Is characterized by pains and sometimes paralysis
 - D. Can occur if one descends a mountain too rapidly
- 19) Functional residual capacity of lung is :
- A. Volume expired after normal expiration
 - B. Volume remaining after forced expiration
 - C. ERV + RV
 - D. Tidal volume + volume inspired forcefully
- 20) Following is also known as “last ditch stand
- A. Cushing reaction
 - B. Baroreceptor response
 - C. CNS ischemic response
 - D. Chemoreceptor response

Section - B

40 Marks

Q. 1. Long Answer Questions. (10 marks)

A 60-year-old chronic smoker man with history of 1 pack of cigarettes per day for the past 47 years presents to respiratory medicine OPD with progressive shortness of breath and chronic cough with yellowish sputum, for the past 2 years. On examination, he appears cachectic and in moderate respiratory distress, especially after walking to the examination room, and has pursed-lip breathing. His neck veins are mildly distended. Lung examination reveals a barrel shaped chest and poor air entry bilaterally, with moderate inspiratory and expiratory wheezing. Cardiovascular and abdominal examination are within normal limits. Lower extremities exhibit scant pitting edema.

- I. What type of lung disorder is the man suffering from? (1 mark)
- II. Describe the structural changes in his respiratory system and their physiological basis. (3 marks)
- III. What is the likely cause of neck vein distention and pitting edema in legs? (2 marks)
- IV. Describe the Pulmonary Function Tests that you would advise for this patient? (4 marks)

- Q. 2. Answer in Short. (Any 5 out of 6) (5 × 3 = 15 marks)**
- Rh blood group
 - Facilitated diffusion
 - Juxtamedullary nephron
 - Hypovolemic shock
 - Doctor patient relationship
 - Stokes-Adams syndrome

- Q. 3. Short notes. (Any 3 out of 4) (3 × 5 = 15 marks)**
- Heart sounds
 - Mismatched blood transfusion
 - Gastric emptying
 - Functions of bile

Section - C

40 Marks

- Q. 4. Long Answer Questions. (1 + 7 + 2 = 10 marks)**
Define Homeostasis with relevant example. Explain negative and positive feedback mechanism. What is feed back gain?

- Q. 5. Answer in Short. (Any 5 out of 6) (5 × 3 = 15 marks)**
- Compare and contrast: Isotonic contraction and Isometric contraction
 - Classification of Hypoxia
 - C. Principles for treatment of peptic ulcer
 - GFR
 - Bainbridge reflex
 - Functions of plasma protein

- Q. 6. Short notes. (Any 3 out of 4) (3 × 5 = 15 marks)**
- A V nodal delay
 - Digestion and absorption of Fats
 - Dead space
 - Functions of Proximal convoluted Tubule