

**MBBS I (First) Professional Examination 2018-19**

**Course Code:**MBS102

**Paper ID:** 03219103

**Physiology -I**

**Time:** 2 Hours 40 Minutes

**Max Marks:** 40

**Note:** Attempt all questions. Draw proper diagrams to support your answer.

**Part ‘B’**

- 1. What is Erythropoiesis? Describe the various stages, sites and factors affecting it. (10)
- 2. Define Cardiac Output? What are the methods of measuring it? Enumerate the factors on which it depends. (10)
- 3. Write in brief: (5x4=20)
  - a) FVC
  - b) Bohr’s effect
  - c) Active Immunity
  - d) Renin Angiotensin System

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**Roll No.**

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**Student’s Signature**

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**Course Code:**MBS102

**Student’s Name**

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**Invigilator’s Signature**

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**Paper ID:** 03219103

**Physiology - I**

**Part ‘A’**

**Time:** 20 Minutes

**Max Marks:** 10

- Note:**
- 1. Attempt all questions and return this part of the question paper to the invigilator after 20 Minutes.
  - 2. Please tick (✓) correct one only. Cutting, overwriting or any other marking are not allowed.
  - 3. For answering please use Ball- pen only.

- made up of red and white blood cells
- Q.2 Which of the following statements is not correct:
- Heparin is a naturally occurring anticoagulant
  - Highly basic protein, protamine is used clinically to neutralize heparin
  - Coumarin derivatives inhibit the action of Vit C
  - Vit K is required for the conversion of glutamic acid residues to  $\gamma$ -carboxyglutamic acid residues
- Q.3 Which of the following proteins involved in clotting is not Vit K dependent:
- Factor II
  - Factor IX
  - Factor V
  - Factor VII
- Q.4 Which of the following statements is not correct:
- A large share of the antibodies formed during the primary response are of IgM type
  - IgE is specially involved in allergy
  - Suppressor T cells are capable of suppressing the function of both cytotoxic & helper T cell
  - IgG antibodies have 10 binding sites
- Q.5 Renal plasma flow can be measured by performing:
- PAH clearance
  - Inulin clearance
  - Urea clearance
  - Creatinine clearance
- Q.6 Movement of which muscle accounts for 75% of change in intrathoracic volume during quiet inspiration:
- Diaphragm
  - Internal intercostals
  - External intercostals
  - Anterior abdominal wall muscles
- Thin descending limb of loop of henle
  - Thin ascending limb of loop of henle.
  - Proximal tubule
  - Collecting duct
- Q.15 In which part of loop of henle is the movement of  $\text{Na}^+\text{Cl}^-$  passive:
- Thin descending loop
  - Thin ascending limb
  - Thick ascending limb
  - Descending part of proximal tubule
- Q.16 The daily production of  $\text{H}^+$  from  $\text{CO}_2$  is primarily buffered by which of the following:
- Extracellular bicarbonate
  - RBC bicarbonate
  - Hemoglobin
  - Plasma protein
- Q.17 The filtration fraction is increased by which of the following:
- Increasing renal blood flow
  - Increasing afferent arteriolar resistance
  - Increasing efferent arteriolar resistance
  - Increasing plasma oncotic pressure
- Q.18 Metabolic acidosis is caused by:
- Hypoaldosteronism
  - Hyperventilation
  - Hypovolemia
  - Hypokalemia
- Q.19 Most of the glucose filtered through glomerulus undergoes reabsorption in:
- Proximal tubule
  - Ascending limb of loop of henle
  - Descending limb of loop of henle
  - Distal tubule
- Q.20  $\text{Na}^+$  is reabsorbed from basolateral surface of renal epithelial cells by which of the following:
- Na glucose co transport
  - Na-K pump
  - Facilitated diffusion
  - Solvent drag

- Q.8 Mean blood pressure is equal to the:
- Diastolic pressure plus one third of systolic pressure.
  - Diastolic pressure plus one third of pulse pressure
  - Diastolic pressure plus one third of pulse pressure
  - Systolic pressure plus one third of diastolic pressure

P.T.O.

- Q.9 Which one of the substance is a naturally occurring anticoagulant in the circulating blood:
- Albumin
  - Heparin
  - PAH
  - Insulin
- Q.10 Surfactant in lung alveoli is produced by:
- Type II alveolar epithelial cells
  - Type I alveolar epithelial cells
  - APUD cells
  - Pulmonary alveolar macrophages
- Q.11 Receptors in carotid body and aortic bodies are stimulated by:
- Rise in its  $\text{PCO}_2$
  - Rise in its  $\text{H}^+$  concentration
  - Decline in its  $\text{PO}_2$
  - All of the above
- Q.12 Which one of the vessel types is known as capacitance vessels:
- Large arteries
  - Aterioles
  - Capillaries
  - Veins
- Q.13 The buffering capacity of hemoglobin is because of which amino acid:
- Valine
  - leucine
  - Histidine
  - Arginine
- Q.14 The difference between cortical & juxtamedullary nephrons is in the length of: