



**RAN-3702**

**First MBBS Examination**

**October - 2020**

**Physiology : Paper - I (Old)**

**Time: 2.30 Hours ]**

**[ Total Marks: 50**

**सूचना : / Instructions**

नीचे दृष्टवित्त निशानीवाणी विगतो उत्तरवली पर अवश्य लभवी.  
**Fill up strictly the details of signs on your answer book**

Name of the Examination:

First MBBS

Name of the Subject :

Physiology : Paper - I (Old)

Subject Code No.: 3 7 0 2

Seat No.:

--	--	--	--	--	--

Student's Signature

**Section - I**

- Q-1.** Define cardiac output. Discuss the factors regulating cardiac output. **08**
- Q-2.** Write short notes on any three: **12**
- (a) Cell membrane
  - (b) Lung volume and capacities
  - (c) T tubules
  - (d) Neuronal regulation of breathing
- Q-3.** Answer in brief in 1-2 sentence. (any 5) **0:**
- (a) Define anaemia
  - (b) What is pacemaker
  - (c) Define Tachycardia
  - (d) Composition of pancreatic juice
  - (e) Name any one anticoagulant
  - (f) Significance of blood group

Section - II

- Q-4. Write notes on. (any 4)** **08**
- (a) Function Neutrophils
  - (b) Functions of gall bladder
  - (c) Sarcomere
  - (d) Myasthenia gravis
  - (e) Function of pepsinogen in gastric juice
- Q-5. Write notes on. (any 3)** **12**
- (a) Salivary secretion
  - (b) Erythropoiesis
  - (c) Nephron
  - (d) Systolic blood pressure
- Q-6 Answer in brief. (any 5)** **05**
- (a) Normal ESR value in an adult
  - (b) "Renal threshold for glucose is 180 mg/dl." True/false?
  - (c) "Plasma proteins are synthesized by liver." True/ false?
  - (d) What is the disease caused by Deficiency of factor VIII ?
  - (e) What is the resting membrane potential of large nerve fiber?
  - (f) What is normal Body fluid osmolarity?
-



RAN-2006000101020001

**RAN-2006000101020001**

**FIRST MBBS Examination**

**October - 2020**

**Physiology Paper-I (+MCQ)**

**Time: 3 Hours ]**

**[ Total Marks: 100**

**सूचना : / Instructions**

नीचे दृष्टवित निशानीवाणी विगतो उत्तरवही पर अवश्य लभवी.  
**Fill up strictly the details of signs on your answer book**

Name of the Examination:

First MBBS

Name of the Subject :

Physiology Paper-I (+MCQ)

Subject Code No.: 2006000101020001

Seat No.:

Student's Signature

**Instructions:**

- (1) ANSWER section A (MCQ IN OMR SHEET) in first 30 minutes and submit.
- (2) All the sections are compulsory.
- (3) Each section must be answered in separate sheets.
- (4) Each question must be answered relevantly, precisely and to the point.

**SECTION A**

**Q. 1** Multiple choice question (no negative marking)

**20**

1. J receptors are present in
  - a. Walls of the alveoli
  - b. Walls of trachea
  - c. Pulmonary capillary walls
  - d. Pulmonary interstitium

REDM... AI Q...  
RAN-2006000101020001 ]

[ 1 ]

[ P.T.O. ]

18181

2. When fully saturated, each gram of normal Hb can combine with \_\_\_\_\_ ml of oxygen
  - a. 1.34
  - b. 13.4
  - c. 3.14
  - d. 0.34
  
3. What is the equilibrium potential for potassium ion across the plasma membrane?
  - a. -120 mV
  - b. -60mV
  - c. +90mV
  - d. +120mV
  
4. Which of the following decreases the length during contraction of skeletal muscle fibres?
  - a. A band of the sarcomere
  - b. I band of the sarcomere
  - c. Z disc of the sarcomere
  - d. Thin filament
  
5. Resting membrane potential of myelinated nerve fiber is primarily dependent on \_\_\_\_\_ ion concentration gradient?
  - a. Potassium ion
  - b. Sodium ion
  - c. Chloride ion
  - d. Bicarbonate ion
  
6. At the end of isovolumic contraction following valvular changes occurs ?
  - a. AV valve closes
  - b. Aortic valve opens
  - c. Aortic valve closes
  - d. Pulmonary valve closes

7. Increase sympathetic activity of the heart causes
- Decrease heart rate
  - Decrease atrial contractility
  - Decrease ventricular contractility
  - Increase norepinephrine release in ventricles
8. If Purkinje fibers become pacemaker of the heart the expected heart rate will be
- 30/min
  - 60/min
  - 80/min
  - 70/min
9. Under normal condition majority sodium reabsorption occurs in following part of nephron
- Proximal tubule
  - DCT
  - Loop of henle
  - Collecting duct
10. Universal donor blood group is
- A
  - O
  - AB
  - B
11. Megaloblastic anemia occurs in
- Iron deficiency anemia
  - Hemolytic anemia
  - Sideroblastic anemia
  - B12 deficiency anemia
12. Meissner's nerve plexus of GIT is situated in
- Mucosa
  - Submucosa
  - Muscularis mucosa
  - Serosa

[ P.T.O. ]

13. FEV1 / FVC ratio is less than normal in
- Pneumonia
  - Fibrosis
  - Asthma
  - Pleural Effusion
14. A person having severe diarrhea leads to
- Respiratory acidosis
  - Metabolic acidosis
  - Respiratory alkalosis
  - Metabolic alkalosis
15. P wave of normal ECG corresponds to
- Atrial depolarization
  - Atrial repolarization
  - Ventricular repolarization
  - Ventricular depolarization
16. Normal GFR is
- 120 ml/min
  - 220 ml/min
  - 320 ml/min
  - 70 ml/min
17. Following are the vital signs in clinics except
- HR
  - RR
  - Blood pressure
  - Pain
18. First heart sound is produced because of
- AV valve closure
  - AV valve opening
  - Semilunar valve closure
  - Rapid filling of ventricles

19. Functions of lysosome is
- intracellular digestion
  - Apoptosis
  - Both
  - None of the above
20. Action potential of cardiac muscle is because of
- Slow channels
  - Calcium channels
  - Both
  - None of the above

### SECTION B

**Q. 2** Give an account on composition and functions of gastric juice secretion in stomach. Depict HCl secretion by parietal cells in gastric juice.  
Enlist the phases of control of gastric secretion. 4+4+2

**Q. 3** **Answer in short (any 5)** 15

- Surfactant
- Vital capacity
- Layers of respiratory membrane and its physiological importance
- Oxygen dissociation curve
- Inspiratory center (DRG)
- Functions of lungs

**Q. 4** **Write short notes on (any 3)** 15

- Role of Proximal convoluted tubules
- Inulin clearance test
- Juxtaglomerular apparatus
- Micturition reflex

**SECTION C**

**Q. 5** Define the terms: Cardiac output.  
Stroke volume  
Cardiac index  
Discuss the factors and mechanisms which regulate cardiac output. 3+7

**Q. 6** **Answer in short (any 5)** 15

- a. Myoproteins
- b. Sarcomere
- c. Endoplasmic reticulum
- d. T tubules
- e. Diffusion
- f. Types of Muscle fibers

**Q. 7** **Write short notes on (any 3)** 15

- a. Blood group system and significance
- b. Cell mediated immunity
- c. Functions of platelets
- d. Types of hemoglobin