RAN-2006000101020001

RAN-2006000101020001

FIRST MBBS Examination

October - 2020

Physiology Paper-I (+MCQ)

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

સૂચના : / Instructions

નીચે દર્શાવેલ ☛ નિશાનીવાળી વિગતો ઉત્તરવહી પર અવશ્ય લખવી.
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

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
   a. Decrease heart rate
   b. Decrease atrial contractility
   c. Decrease ventricular contractility
   d. Increase norepinephrine release in ventricles

8. If Purkinje fibers become pacemaker of the heart the expected heart rate will be
   a. 30/min
   b. 60/min
   c. 80/min
   d. 70/min

9. Under normal condition majority sodium reabsorption occurs in following part of nephron
   a. Proximal tubule
   b. DCT
   c. Loop of henle
   d. Collecting duct

10. Universal donor blood group is
   a. A
   b. O
   c. AB
   d. B

11. Megaloblastic anemia occurs in
   a. Iron deficiency anemia
   b. Hemolytic anemia
   c. Sideroblastic anemia
   d. B12 deficiency anemia

12. Meissner's nerve plexus of GIT is situated in
   a. Mucosa
   b. Submucosa
   c. Muscularis mucosa
   d. Serosa

[P.T.O.]

13. FEV1 / FVC ratio is less than normal in
    a. Pneumonia
    b. Fibrosis
    c. Asthma
    d. Pleural Effusion

14. A person having severe diarrhea leads to
    a. Respiratory acidosis
    b. Metabolic acidosis
    c. Respiratory alkalosis
    d. Metabolic alkalosis

15. P wave of normal ECG corresponds to
    a. Atrial depolarization
    b. Atrial repolarization
    c. Ventricular repolarization
    d. Ventricular depolarization

16. Normal GFR is
    a. 120 ml/min
    b. 220 ml/min
    c. 320 ml/min
    d. 70 ml/min

17. Following are the vital signs in clinics except
    a. HR
    b. RR
    c. Blood pressure
    d. Pain

18. First heart sound is produced because of
    a. AV valve closure
    b. AV valve opening
    c. Semilunar valve closure
    d. Rapid filling of ventricles

19. Functions of lysosome is
    a. intracellular digestion
    b. Apoptosis
    c. Both
    d. None of the above

20. Action potential of cardiac muscle is because of
    a. Slow channels
    b. Calcium channels
    c. Both
    d. None of the above

SECTION B

Q. 2 Give an account on composition and functions of gastric juice secretion in stomach. Depict HCI 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**
a. Surfactant
b. Vital capacity
c. Layers of respiratory membrane and its physiological importance
d. Oxygen dissociation curve
e. Inspiratory center (DRG)
f. Functions of lungs

Q. 4 **Write short notes on (any 3)** **15**
a. Role of Proximal convoluted tubules
b. Inulin clearance test
c. Juxtaglomerular apparatus
d. 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