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WARANGAL, TELANGANA STATE – 506 002
MBBS FIRST YEAR SUPPLEMENTARY EXAMINATIONS: NOVEMBER, 2024

PHYSIOLOGY
PAPER – I

Time: 3 Hours

Max Marks: 100

Note: Answer all questions

Give Diagrammatic representation wherever necessary

Multiple Choice Questions:

10 X 1 = 10

1. The type of respiration seen in diabetic ketoacidosis is:
 - a) Cheyne-Stroke breathing
 - b) Biot's respiration
 - c) Hysteric breathing
 - d) Kussmaul Breathing
2. How many oxygen atoms can be transported by each haemoglobin molecule?
 - a) 2
 - b) 4
 - c) 8
 - d) 16
3. True statement regarding sodium reabsorption from DCT &CT:
 - a) 75% gets absorbed by cation exchange process
 - b) 25% gets absorbed by chloride driven sodium transport
 - c) K⁺ competes with H⁺ for Na⁺ reabsorption
 - d) Stimulated by ADH
4. The term "Brain of the Gut" is used to refer to the:
 - a) Autonomic ganglia
 - b) Enteric nervous system
 - c) Migratory motor complex
 - d) Interstitial cells of Cajal
5. Calcium channels are
 - a) Voltage gated
 - b) Ligand gated
 - c) Mechanical gated
 - d) All of the above
6. The term cell eating is described as:
 - a) Phagocytosis
 - b) Exocytosis
 - c) Endocytosis
 - d) Diffusion
7. Meaning of Homeostasis:
 - a) Contributor and provider
 - b) Expand
 - c) Same or constant
 - d) Receiver
8. The cardiac index is:
 - a) Cardiac output per square meter body surface area
 - b) Increased in old age
 - c) Normally about 5 litre/minute/m²
 - d) Stroke volume multiplied by the heart rate

9. Sino atrial node (SAN) is called cardiac pacemaker because:
- It allows almost immediate transmission of cardiac impulse throughout the entire ventricular system
 - It is capable of generation of impulse and conduction of the heart beat
 - It determines the rate at which the heart beats
 - The speed of conduction of impulse is fastest in SAN
10. Which of the following concerning average lung volumes and capacities of a person at rest is TRUE ?
- TLC > VC>TV>FRC
 - TLC >FRC>VC>TV
 - TLC >VC>FRC>TV
 - TLC >FRC>TV>VC

Essay/ Long Answer Questions:

2 X 15 = 30

11. A fifty two year old male reports of extreme tiredness, difficulty in concentration, feeling of fainting on sudden standing and decrease in appetite. The patient is pure vegetarian and has a habit of consuming alcohol. Examination of his oral cavity revealed signs of red buffy tongue, bleeding gums and cracks at the angle of the mouth. Peripheral smear showed macrocytic normochromic anaemia. (3+5+5+2)
- Identify the condition.
 - Describe in detail about Erythropoiesis.
 - Discuss factors influencing erythropoiesis.
 - Treatment of above condition.
12. A forty year old male complained of frequent pain in abdomen which commenced shortly after meals and no relief even on taking antacids at several occasions. He was a regular betel nut chewer and chronic alcoholic. He was under treatment for arthritis with non steroidal anti – inflammatory analgesic tablets. (2+5+5+3)
- Identify the condition, he is suffering with.
 - Write on mechanism of secretion of HCl in stomach.
 - Describe the Phases of gastric juice secretion.
 - Explain in brief about Pavlov's pouch.

Short Answer Questions:

7 X 6 = 42

- Write the Electrical and mechanical events occurring in the Heart during ventricular systole.
- Discuss the factors affecting coronary circulation.
- Micturition reflex
- Dynamic lung volumes and capacities.
- Artificial Kidney
- Baroreceptor Reflex.
- Discuss the rights of a patient.

Very Short Answer Questions:

6 X 3 = 18

- Define Cyanosis and write the causes
- Exocytosis
- Landsteiner's Laws.
- Wind kessel vessels and resistance vessels
- Bohr effect.
- Substances used to estimate ECF and Blood volume.
