

Madhya Pradesh Medical Science University, Jabalpur

MBBS First Professional Examination Feb-2023

Subject- Physiology (New Scheme)

Paper- I

Paper Code-23AM0000100551

Time : 3:00 Hours

Maximum Marks :100

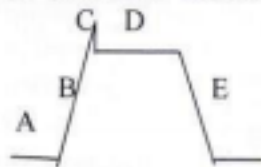
Instructions:

- All questions are compulsory
- Draw diagrams wherever necessary
- Answers of Questions and Sub questions must be written strictly according to the serial order of question paper.
- MCQ has to be answered in theory answer book
- Please write MCQ answer neatly and in serial order with black or blue pen in brackets for example:- 1. (a) 2. (b)
- MCQ has to be answered only once, any kind for repetition or cutting or erasing or whitener will be consider as malpractice, Such answers will not be counted in the marks and action will be taken according to UFM rules of University
- Subjective Answer should be answered in up to 30 words per marks. For example if a question having 2 marks answer should be answered in up to 60 words.

Q. 1 Total MCQs : 10

10 X1 = 10

- Gap junctions are present in one of the following tissues:
 - Neurons
 - Cardiac Muscle
 - Epithelial tissue
 - Skeletal muscle
- Resting membrane potential develops mainly due to
 - Na^+ efflux
 - Cl^- influx
 - Ca^{++} influx
 - K^+ efflux
- One of the following is the test for extrinsic system of blood clotting:
 - Platelet count
 - Thromboplastin generation time
 - Bleeding time
 - Prothrombin time
- Pacemaker potential is due to
 - Leaky Na^+ Channels
 - Leaky K^+ Channels
 - Leaky Ca^{2+} Channels
 - Slow Ca^{2+} Channels
- A 55- year-old male with a history of interstitial pulmonary fibrosis undergoes pulmonary function testing. What parameter would most likely be decreased in this restrictive lung disease patient?
 - Low arterial pO_2
 - Low arterial pO_2 content
 - Normal hemoglobin content
 - Low A-V pO_2 differences
- Which of the following is incorrect about Na^+-K^+ Pump-
 - K^+ is pumped against gradient
 - 2 K^+ are exchanged with 3 Na^+
 - It is present in nerve and muscle cells only
 - It utilizes energy in the form of ATP
- The phases of the ventricular muscle action potential is given below



At which point on the above graph, is membrane potential most dependent on calcium permeability?

- Point B
 - Point C
 - Point D
 - Point E
- Assuming a regular menstrual cycle of 30 to 32 days in a young female, ovulation would be expected to occur between
 - Day 12 and 14
 - Day 16 and 18
 - Day 18 and 20
 - Day 22 and 24
 - A 35 years old female patient complains of unexplained weight gain, excessive sleepiness, constipation and dry hair. What could be the probable diagnosis?
 - Grove's Disease
 - Hashimoto thyroiditis
 - Toxic Golter
 - All of the above.
 - Functional Residual Capacity of Lung is defined-
 - Volume expired after normal expiration
 - Volume expired after forced expiration
 - $\text{ERV} + \text{RV}$
 - $\text{TV} + \text{IRV}$

Q.2 Long Answer Questions

www.FirstRanker.com

www.FirstRanker.com

- a. Define cardiac output.
Describe the factors affecting cardiac output.
List the methods of measurement of cardiac output.
- b. Define resting membrane potential (RMP). Describe genesis of RMP in nerve fibers.

Q.3 Brief Answer Questions**6X05=30**

- a. Oxygen delivery to tissue is greatly reduced in a patient with carbon monoxide poisoning, in relation to this answer the following
 - a. What is the physiological basis of reduced oxygen delivery to the tissues?
 - b. Describe the functional significance of oxygen-hemoglobin dissociation curve.
- b. Define Hemostasis. Discuss all the mechanism involved in hemostasis
- c. Metabolic action of Thyroid hormone. What is Myxedema?
- d. Define immunity and describe the mechanism of cellular immunity.
- e. Describe the role of endocrine pancreas in regulation of blood sugar level.
- f. Explain neural Regulation of respiration

Q.4 Short Answer Questions**10X02=20**

- a. Ejection fraction.
- b. Indicators of ovulation.
- c. Define Hypoxia and name its types.
- d. Surfactant .
- e. Franks starling law.
- f. Draw a well labeled diagram of normal ECG in Lead II.
- g. Hering-Breuer reflex.
- h. Define cardiac cycle.
- i. Cushing's Syndrome .
- j. Define Blood pressure.

Reddy
08/3/23

Madhya Pradesh Medical Science University, Jabalpur

MBBS First Professional Examination Feb-2023

Subject-Physiology (New Scheme)

Paper-I

Q1.MCQ Answer Key

1. (b)
2. (d)
3. (d)
4. (a)
5. (b)
6. (c)
7. (c)
8. (b)
9. (b)
10. (c)