

Madhya Pradesh Medical Science University, Jabalpur**MBBS First Professional Examination Dec-2022****Paper Code-22BM0000100551****Subject- Physiology****Paper-I**

Time: 3:00 Hours

Maximum Marks :100

Instructions:

- a) All questions are compulsory
 - b) Draw diagrams wherever necessary
 - c) Answers of Questions and Sub questions must be written strictly according to the serial order of question paper.
 - d) MCQ has to be answered in theory answer book
 - e) Please write MCQ answer neatly and in serial order with black or blue pen in brackets for example:- 1. (a) 2. (b)
 - f) MCQ has to be answered only once, any kind of repetition or cutting or erasing or whitener will be considered as malpractice.
- Such answers will not be counted in the marks and action will be taken according to UFM rules of University
- g) 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**10x1=10**

1 Gap junctions are present in one of the following tissues:

- a. Neurons
- b. Cardiac Muscle
- c. Epithelial tissue
- d. Skeletal muscle

2 Resting membrane potential develops mainly due to

- a. Na^+ efflux
- b. Cl^- influx
- c. Ca^{++} influx

d. K^+ efflux

3 Conjugated bilirubin is excreted by hepatic cells into bile canaliculi as:

- a. Exocytosis
- b. Diffusion
- c. An active process
- d. Carrier mediated process

4 Anticoagulant used in the blood bank to keep blood in fluid state:

- a. EDTA
- b. Heparin
- c. Citrate phosphate dextrose
- d. Sodium oxalate

5 Complements have all the following functions; except:

- a. Opsonization
- b. Phagocytosis
- c. Cytolysis
- d. Chemotaxis

6 Tall "T" waves of ECG are associated with:

- a. hypernatremia
- b. Hyperkalemia
- c. Hyponatremia
- d. Hypokalemia

7 Antibodies which can easily cross placenta:

- a. IgE
- b. IgG
- c. IgA
- d. IgM

8 Normal intrapleural pressure is:

- a. 5 mm Hg
- b. -10 mmHg
- c. -5 mmHg
- d. -2.5 mmHg

9 Diluting segment(s) of the nephron is:

- a. Descending limb of Loop of Henle
- b. Collecting ducts
- c. Early DCT and thick ascending limb of Loop of Henle
- d. Ascending limb of Loop of Henle

10 One of the following is not the function of gall bladder:

- a. Absorption of HCO_3
- b. Secretion of bile salts
- c. Storage of bile
- d. Absorption of water

Q.2 Long Answer Questions

2X20=40

- a. Draw a detailed and labeled diagram of events in cardiac cycle. Explain each event.
- b. Define hypoxia. Classify hypoxia and discuss the cause of the same. Add a note on oxygen therapy in hypoxia.

Q.3 Brief Answer Questions

6X05=30

- a. Draw a labelled diagram of strength-duration curve. Explain chronaxie, rheobase and utilization time.
- b. Hazards of mismatched transfusion
- c. Hemorrhagic shock and its stages
- d. Cell mediated Immunity
- e. Deglutition
- f. Micturition reflex

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

- a. Hering -Breuer reflex
- b. Positive feedback mechanism
- c. P_{50} in Oxygen-Hemoglobin dissociation curve
- d. Transport maximum for glucose
- e. What is the formula to determine GFR in Inulin Renal Clearance Test?
- f. Draw a labelled diagram of cardiac muscle action potential.
- g. Molecular motors
- h. Juxtaglomerular apparatus
- i. Haldane effect
- j. Ejection fraction
