



All India Institute of Medical Sciences, Kalyani
B.Sc.(Hons) Nursing First Year Examination, August 2023
Time: 3 Hrs. ANATOMY & PHYSIOLOGY Marks: 75

INSTRUCTIONS:

- Answer Anatomy & Physiology Section in separate answer booklets.
- Draw diagram wherever necessary.

ANATOMY (37 MARKS)

SECTION A

Answer any ONE of the following **(1X7=7)**

1. Describe Liver under following headings: (3+2+2)
- a. Parts and relations
 - b. Blood supply
 - c. Applied Anatomy

OR

2. Describe the heart under following headings: (2+3+2)
- a. Interior of right atrium
 - b. Coronary circulation
 - c. Anatomical basis of myocardial infarction

SECTION B

Write short notes on any FOUR: **(4X5=20)**

3. Anterior relation of right kidney
 4. Deltoid muscle- origin, insertion, nerve supply and applied aspect
 5. Draw well labelled diagram of floor of fourth ventricle
 6. Knee joint- type and ligaments
 7. Neural crest derivatives
 8. Factors affecting venous return
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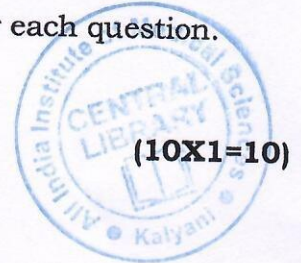
Enrollment No. _____

Invigilator sign: _____

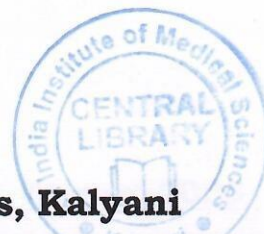
SECTION C (ANATOMY)

- Section C (Anatomy & Physiology) should be answered in first 20 minutes of the Exam duration and handed over to the invigilators.
- Put one tick ✓ mark to only one answer that you consider correct for each question.
- Mark your tick ✓ in pen.

Multiple Choice Questions (MCQs):



1. First carpo-metacarpal joint is type of synovial joint of
 - a. Plane
 - b. Saddle type
 - c. Ball and socket
 - d. Pivot type
2. In an adult, trachea starts at this vertebral level:
 - a. Sixth cervical
 - b. First thoracic
 - c. Second thoracic
 - d. Seventh cervical
3. Injury to which of the following nerve leads to foot drop?
 - a. Obturator
 - b. Femoral
 - c. Common Peroneal
 - d. Tibial
4. The muscle functions as Peripheral heart is:
 - a. Biceps Femoris
 - b. Soleus
 - c. Popliteus
 - d. Gluteus Medius
5. Diabetes Mellitus is a disorder of _____ gland.
 - a. Thyroid
 - b. Pituitary
 - c. Pancreas
 - d. Adrenal
6. Following is an example of commissural fibers of nervous system
 - a. Internal capsule
 - b. Long association
 - c. Optic radiation
 - d. Corpus callosum
7. A 40-year man was brought to emergency with the complaints of severe bleeding from scalp after he had fall on right side in an accident. Which of the artery is most likely to be injured at pterion?
 - a. External carotid
 - b. Middle meningeal
 - c. Posterior auricular
 - d. Facial
8. A young male felt pain in the right ilio-umbilical line. He also had nausea, temperature and increased pulse rate with leucocytosis. The pain is related to which organ?
 - a. Appendix
 - b. Gall bladder
 - c. Stomach
 - d. Small intestine
9. A patient came with injury on left elbow after an accident. He is feeling numbness in medial two digits of left hand. Which nerve is injured?
 - a. Radial nerve
 - b. Axillary nerve
 - c. Ulnar nerve
 - d. Musculocutaneous nerve
10. In case of dehydration with history of diarrhea and vomiting, which vein is most convenient for intravenous infusion of glucose in upper extremity?
 - a. Cephalic vein
 - b. Median cubital vein
 - c. Basilic vein
 - d. Femoral vein



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ANATOMY & PHYSIOLOGY

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- Draw diagram wherever necessary

PHYSIOLOGY (38 MARKS)

SECTION-A

Answer any ONE of the following:

[1X8=8]

1. Define Blood Pressure and its normal value. Explain in detail the short term regulation of blood pressure (2+6)
2. Compare the differences between an upper motor and lower motor neuron lesion. Add a note on Brown Sequard Syndrome (6+2)

SECTION-B

Write short notes on any FOUR:

[4X5=20]

3. Describe in detail the excitation contraction coupling in skeletal muscle fibres. (5)
 4. Define major and minor cross matching. Add a note on the Rh Incompatibility of the new born. (3+2)
 5. What are the different layers of respiratory membrane? Explain in details the factors affecting the diffusion of gases across the respiratory membrane. (2+3)
 6. Define and classify Jaundice based on the metabolism of bilirubin. (2+3)
 7. With the help of a labelled diagram, describe the mechanism of secretion of HCl by parietal cell. (2+3)
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SECTION C (PHYSIOLOGY)

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- Put one tick (✓) mark to only one answer that you consider correct for each question.
- Mark your tick (✓) in pen.

Multiple Choice Questions (MCQs):

[10X1=10]

1. Normal A/G ration in the blood is
 - a) 1.7:1
 - b) 1:1.7
 - c) 7.1:1
 - d) 1:7.1
2. Smooth muscle does not contain
 - a) Actin
 - b) Myosin
 - c) Tropomyosin
 - d) Troponin
3. Following are the movements of the small intestine **except**
 - a) Peristalsis
 - b) Segmentation
 - c) Pendular
 - d) Mass peristalsis
4. Which of the following is not recorded in a typical lead II ECG?
 - a) Atrial depolarisation
 - b) Atrial repolarisation
 - c) Ventricular depolarisation
 - d) Ventricular repolarisation
5. Oxygenation of haemoglobin lowers its affinity for carbon dioxide is called
 - a) Bainbridge effect
 - b) Haldane effect
 - c) Bohr effect
 - d) Herring Breuer effect
6. Glycosuria appears, when the TmG exceeds
 - a) 180 mg/min
 - b) 300 mg/min
 - c) 375 mg/min
 - d) 500 mg/min