



All India Institute of Medical Sciences, Kalyani
1st Professional MBBS Examination 2021
Physiology (Paper-I)

Time: 3 Hrs.

Marks: 100

- Answer all questions and draw well labeled diagrams wherever necessary
- Answer Section A and B in separate answer booklets.
- Write answer in sequence and strike off all blank pages.

SECTION A (50 Marks)

1. Describe the mechanism of gastric acid secretion. Describe the different phases of gastric juice secretion. Add a note on peptic ulcer. [4+3+3=10]
2. Describe the intrinsic pathway of blood coagulation [5]
3. What is active transport? Explain secondary active transport across cell membrane with example [2+3=5]
4. Explain the mechanism of skeletal muscle contraction [5]
5. Explain the physiological basis of:
a) Myasthenia gravis
b) Kernicterus in infants
c) Prescribing low-dose aspirin in chronic cardiovascular disorders
d) Infants passing stools immediately after feeding
e) Edema in protein energy malnutrition [1×5=5]
6. Compound nerve action potential. [5]
7. Enumerate enzymes secreted from exocrine pancreas. Write a note on Steatorrhea. [2+3=5]
8. Write short note on dietary fibre and the benefits of Short Chain Fatty Acids [3+2=5]
9. Write a note on acquired Immunity [5]

SECTION B (50 Marks)

1. Describe neural regulation of respiration. Add a note on periodic breathing. [7+3=10]
2. Describe the role of hypothalamus in temperature regulation [5]
3. Define cardiac output. Describe the regulation of cardiac output [2+3=5]
4. Describe short term regulation of blood pressure [5]
5. Describe acclimatization to high altitude [5]
6. Draw a neat labelled diagram of lead II electrocardiogram. Mention the ECG changes in acute myocardial ischemia [3+2=5]
7. Explain the role of surfactant in respiration [5]
8. Explain Hamburger's chloride shift [5]
9. Define and classify shock with examples [5]