



PHYSIOLOGY
PAPER – I

PHY/D/14/36/I

Time : 3 hours
Max. Marks : 100

Important instructions:

- Attempt all questions in order.
- Each question carries 10 marks.
- Read the question carefully and answer to the point neatly and legibly.
- Do not leave any blank pages between two answers.
- Indicate the question number correctly for the answer in the margin space.
- Answer all the parts of a single question together.
- Start the answer to a question on a fresh page or leave adequate space between two answers.
- Draw table/diagrams/flowcharts wherever appropriate.

1. Define milieu interior. Discuss in brief with examples functioning of negative and positive feedback mechanisms. 2+(4+4)
2. Explain briefly various phases of mitosis in human cell. 10
3. Name various anticoagulants. Discuss the various anti-clotting mechanisms. 3+7
4. Define erythropoiesis. Draw well labeled diagram(s) of various stages of erythropoiesis. Briefly discuss its regulation. 2+4+4
5. What are tissue macrophages? What is their origin, and how do they contribute to body defenses? 2+(2+6)
6. What is autoregulation? Enumerate the various theories to explain autoregulation in the kidney. Discuss one theory in detail. 2+3+5
7. Enumerate the trace elements believed to be essential for life? Discuss in brief about effects of deficiencies and toxicity due to overdoses of these trace elements. 2+(4+4)
8. Describe briefly about cholesterol metabolism. What are the factors responsible for hypercholesterolemia and its relation to atherosclerosis? 4+6
9. Describe the various physical principles that dictate the flow of blood in the circulatory system. 10
10. Define and discuss tubuloglomerular feedback and glomerulotubular balance. 5+5
