

PHYSIOLOGY**PAPER – I**

Time : 3 hours

PHY/D/17/36/I

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.

Write short notes on:

1. a) Define homeostasis. 1+6+3
b) Explain in brief characteristic features of negative and feedback mechanisms. Give appropriate examples.
c) Add a note on Feed Forward Control system.
2. a) Illustrate with the help of diagram /flow chart the formation of temporary and permanent haemostatic plugs. 5+3+2
b) Components and physiological importance of Fibrinolytic system.
c) Pathophysiology of disseminated intravascular coagulation.
3. a) Enumerate various components of Cytoskeleton. 6+4
Explain in brief the structure and function of each.
b) List the major molecular motors and their functions.
4. a) Role of folic acid in erythropoiesis 4+(3+3)
b) Features and laboratory investigations of folic acid deficiency anemia
5. a) Steps involved in production of hyperosmotic renal medullary interstitium. 5+3+2
b) Role of vasa-recta in excreting concentrated urine
c) Free-water clearance
6. a) Define Glomerular Filtration Rate (GFR) 1+3+3+3
b) Determinants of GFR
c) Autoregulation of GFR and renal blood flow
d) Measurement of GFR

P.T.O.



PHYSIOLOGY

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| 7. | a) What is Mononuclear Phagocytic System?
b) What are its components, their location and functions in human body? | 2+8 |
| 8. | a) Define ageing
b) Theories of ageing
c) Anti-ageing therapies | 1+5+4 |
| 9. | a) Sampling techniques in medical research
b) ANOVA | 6+4 |
| 10. | a) What are the factors affecting metabolic rate?
b) Obesity | 6+4 |

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