

# IAS Mains Medical Sciences 2000

## Paper-I

1. Answer any five of the following questions in not more than 200 words each:
  - a. Describe the microscopic anatomy of testis. Add a note on spermatogenesis (12).
  - b. Describe structure and functions of placenta at term (12).
  - c. What is plantar reflex? How it is elicited? Describe its nerve supply and importance (12).
  - d. What is nerve-supply of carotid sinus? What are the functions of carotid sinus (12)?
  - e. Enumerate with suitable examples the mechanisms involved in conversion of a substrate to its products through an enzymatic reaction (12).
  - f. Schematically depict the integration of the metabolic activities in liver and muscle in regulation of blood glucose after 72 hours of starvation (12).

## Section A

(Anatomy, Physiology & Biochemistry)

1. Answer the following questions
  - a. Describe the formation of inguinal canal. Add a note on inguinal hernias (30).
  - b. Describe the course and distribution of mandibular branch of fifth cranial nerve (30).
2. Answer the following questions
  - a. What is the mechanism, sites of actions and of origin of insulin? What other hormones balance it in human body and how (20)?
  - b. What are the main factors which maintain and regulate venous return (20)?
  - c. What are the factors which increase oxygen supply to more active tissues (20)?
3. Answer the following questions
  - a. Sequence the events contributing to the regulation of plasma cholesterol levels as a consequence of receptor mediated uptake of LDL by hepatic and extra-hepatic tissues (30).
  - b. What is ketoacidosis? How will you differentiate between metabolic acidosis and respiratory acidosis (30)?

## Section B

(Pathology, Microbiology, Forensic Medicine, Pharmacology and Toxicology)

1. Answer any five of the following questions in about 200 words each:
  - a. Explain the terms metaplasia, anaplasia, dysplasia, hyperplasia and hypoplasia with suitable examples (12).
  - b. What are the complications and sequelae of streptococcal sore throat? Discuss its treatment (12)

- c. Discuss the role of biologic agents in the etiopathogenesis of neoplasia (12).
- d. Give indications, contraindications and side effects of rifampin (12).
- e. Discuss the mechanism of action, therapeutic uses and adverse effects of methotrexate (12).
- f. How will you use the blood grouping system in case of disputed paternity (12)?

## Section C

(Pharmacology Forensic Medicine & Toxicology)

1. Answer the following questions

- a. Define cirrhosis of liver. Classify cirrhotic conditions of liver. Discuss the etiopathogenesis and pathology of primary biliary cirrhosis (30).
- b. Discuss the etiopathogenesis and pathological lesions of rheumatic fever (30).

2. Answer the following questions

- a. How will you determine whether the incised wound is ante mortem or post mortem (20)?
- b. Enumerate various physical and chemical tests to confirm the presence of semen in a given sample (20).
- c. Discuss the various methods for control of rabies in India (20).

3. Answer the following questions

- a. Classify non-narcotic analgesics (20).
- b. Discuss the mechanism of action, dosage and toxicity of doxycycline (20).
- c. Describe the mechanism of action, dosage and adverse reactions of dapsone (20).