

# IAS Mains Medical Science 2007

## Paper I

### Section A

1. Attempt any three of the following questions:

- Describe pelvic diaphragm, write in brief about its applied anatomy (20).
- Draw a schematic labelled diagram of a transverse section of thorax passing through the sternal angle. Also enumerate branches of thoracic aorta (20).
- What are the hormones which regulate growth and development of human body during adolescence? How development is regulated by them (20)?
- Describe the mechanism of mineralization of bone. Enumerate the clinical features of deficiency of the factor responsible for mineralization (20).

2. Answer the following questions

- Give an outline of anatomy of facial nerve mentioning its clinical significance (20).
- Describe in short the normal and anomalous development of urinary bladder (20).
- Describe neuronal pathways and reflexes which maintain balance and posture of human body (20).

3. Answer the following questions

- Describe the normal development and differentiation of haemotopoitic cells (20).
- What are the properties and functions of pulmonary surfactants. Discuss the pulmonary function tests (20).
- Describe the endocrine functions of hypothalamus. Enumerate the clinical features of

Acromegaly (20).

4. Answer the following questions

- Discuss the physiology of normal sleep (20).
- Describe the control and regulation of normal homeostasis (20).
- What is Henderson-Hasselbach equation? How is the acid base balance maintained in the body (20)?

### Section B

5. Attempt any three of the following questions:

- Discuss the type and mechanism of Ischemic cell injury (20).
- Discuss the pathophysiology and laboratory diagnosis of Cholera. How does classical vibrio cholerae differ from Eltor vibrio (20)?
- Describe the mechanism of action of Retro-viral drugs in different stages of HIV replication. What are their toxicities (20)?
- Describe the role of DMA Profiling in Forensic medicine (20).

6. Answer the following questions

- a. Discuss the colorectal carcinogenesis (20).
- b. Give the morphological changes and complications in myocardial infarction (20).
- c. What is hydatid disease? Describe the etiopathogenesis, pathological lesions and laboratory diagnosis of echinococcus (20).

7. Answer the following questions

- a. What are newer quinolones? Describe their mechanism of action and development of resistance to them. What are the advantages of newer quinolones over the older quinolones (20)?
- b. What drugs are used in resistant staphylococcal infection? Discuss the mode of action and toxicity of cefpirome (20).
- c. Enumerate anti platelets drugs. Describe their mechanism of action and their toxicity (20).

8. Answer the following questions

- a. Describe the features of contact wound by a rifled firearm. How will you differentiate entry and exit wound in a distant fire (20).
- b. Classify the organophosphorous compounds. Describe the signs, symptoms and management of acute organophosphorus poisoning (20).
- c. Describe how will you differentiate between homicidal and suicidal injuries (20).