

# Medical Sciences: IAS Mains: 2005

## Paper-I

### Section A

1. Attempt any three of the following:

- a. Write gross anatomy of uterus. Add notes on supports of uterus, its histological structure and development (20).
- b. Describe course, relations and distribution of ulnar nerve in hand. Add a note on its applied anatomy (20).
- c. Describe the sequence of events in neuromuscular transmission. What happens in myasthenia gravis (20)?
- d. A famous experiment was carried out by two scientists, Alfred Hershey and Martha Chase in 1952, which has shown that DNA is the chemical bearing the Genetics information in living cells. Briefly describe that Hershey Chase experiment (20).

2. Answer the following questions

- a. Discuss gross and applied anatomy of Knee Joint (20).
- b. Which sensations are carried by Dorsal columns of spinal cord? What changes occur in their lesion (20)?
- c. Describe visual pathway. Discuss various visual impairments involving visual pathway at different levels (20).

3. Answer the following questions

- a. List the hormones secreted by placenta and their functions. What is the physiological basis of early immunological test for pregnancy (20).
- b. Explain the physiological basis of various signs and symptoms of Diabetes mellitus (20).
- c. List the various types of cells found in blood and the precursor cell, function and normal values of each (20).

4. Answer the following questions

- a. Describe the reactions that constitute the Tricarboxylic Acid Cycle (TCA-Cycle). Indicate the energy yield per each cycle (20).
- b. Describe and explain the ventilatory changes in acid base balance (20).
- c. In terms of biochemistry and molecular biology, discuss the characteristic features of 'Living Organisms.' (20)

### Section B

5. Attempt any three of the following:

- a. Describe the salient gross and microscopic features in Tuberculous meningitis (20).
- b. Define sterilization and disinfection. Classify sterilization methods. Describe the sterilization and disinfection methods to be adopted in a District General Hospital having all the major clinical departments including the critical care units (20).

- c. Critically review the various routes of administration of drug (20).
- d. What is 'disputed paternity' Describe how you will solve such a problem by examination of blood (20).

6. Answer the following questions

- a. Discuss the aetiology and pathology of membranous glomerulo nephritis (20).
- b. Discuss the causes and pathology of drug-induced hepatitis (20).
- c. What are Nosocomial infections? Classify staphylo-coccal infections with examples. Explain MRSA, VISA & VRE and the significance of these in hospitals (20).

7. Answer the following questions

- a. Name the alkaloids of opium. Mention actions, therapeutic uses and contraindications of opoid analgesics (20).
- b. Discuss about the pharmacological actions, therapeutic uses and side effects of Dizepam, Metronidazole and Rifampin (20).
- c. What is aminoglycoside antibiotics? Write about the pharmacological actions, resistance, pharmacokinetics, uses and adverse effects of streptomycin (20).

8. Answer the following questions

- a. Define 'dry drowning' Describe postmortem findings in a case of drowning in fresh water (20).
- b. Describe the signs, symptoms and treatment of acute barbiturate poisoning (20).
- c. Describe how you will differentiate between antemortem and postmortem injuries on postmortem examination (20).