

IAS Mains Medical Sciences 2006

Paper-I

Section A

1. Attempt any three of the following: ($3 \times 20 = 60$)

- Describe the development of FACE with the help of a diagram. Mention the anomalies associated with it.
- Describe the gross anatomy of caecum and vermiform appendix. Add a brief note on its applied anatomy.
- List the features of cerebellar lesions and their physiological basis.
- The protein molecular ultimately needed by a cell often differs from the polypeptide chain synthesised. How is the chain modified to impart biological activity? Describe with suitable examples.

2. Answer the following questions

- Give an account of blood supply of heart. Add a brief note on its applied anatomy (20).
- What is accommodation of eye? How is the eye accommodated for near vision? Why does a person start having difficulty in reading after the age of 40 years though the visual acuity is 6/6 (20)?
- Describe the lymphatic drainage of Mammary Gland (Breast). Give an account of its applied anatomy (20).

3. Answer the following questions

- Name the hormones of posterior pituitary and their function. What will happen in the deficiency of them (20)?
- Describe normal menstruation. Why is it absent during the first few months of lactation (20)?
- What will be the consequences if a Rh-ve mother carries a Rh + ve fetus and how can they be prevented (20)?

4. Answer the following questions

- Enumerate with suitable examples vitamin coenzymes involved in oxidation-reduction reactions. Describe at least three vitamins (20).
- Define sinus arrhythmia. How is it produced and what is its clinical significance (20)?
- Non-essential amino acid tyrosine is formed from phenylalanine. How does the conversion take place and how is tyrosine utilised for the formation of hormones (30)?

Section B

5. Answer any three of the following: ($3 \times 20 = 60$)

- What is carcinogenesis? Classify carcinogens. Write in short about important carcinogens.

- b. Name various methods of acquisition of new genes in bacteria. Discuss in detail mechanism of drug resistance in bacteria.
- c. Describe drug-receptor interactions. Discuss G-protein coupled receptor mediated actions of drugs with suitable examples.
- d. How will you determine the range of a firearm in case of fire from a shotgun?

6. Answer the following questions

- a. Describe aetiopathogenesis of glomerulonephritis in brief. Describe different types of glomerulonephritis in short (20).
- b. Discuss virus-host cell interactions and immunity in infection caused by viruses (20).
- c. Name various parasites causing anaemia. Discuss morphology, life cycle, pathogenicity and laboratory diagnosis of *Ancylostomum duodenale* (20).

7. Answer the following questions

- a. Give examples of non-steroidal anti-inflammatory agents. Mention the advantages and adverse effects of selective COX-2 inhibitors as anti-inflammatory agents (20).
- b. Discuss the therapeutic applications of immunosuppressive therapy. Compare the actions of cyclosporine with glucocorticoids as immunosuppressive drug (20).
- c. Discuss the mechanism of action and therapeutic uses of calcium channel blockers. Mention the advantages of dihydropyridines in the treatment of angina pectoris (20).

8. Answer the following questions

- a. How do you determine the extent of burn? What is the difference between ante-mortem and postmortem burns (20)?
- b. How can you differentiate between hanging and strangulation? Discuss in detail (20).
- c. Discuss in detail various examinations done in the laboratory to identify a blood stain (20).