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. Describe spleen under the following headings:
   a) Microanatomy  
   b) Development  
   c) Splenic circulation  
   4+3+3

2. a) Down syndrome  
   b) Karyotyping  
   5+5

3. Write the embryological basis of the following:
   a) Horse shoe kidney  
   b) Tracheo-esophageal fistula  
   5+5

4. Draw labeled diagnosis to depict cross-sectional anatomy of spinal cord at the following level:
   a) Cervical  
   b) Thoracic  
   c) Lumbar  
   d) Sacral  
   2.5x4

5. Describe tongue under the following headings:
   a) Development  
   b) Microanatomy  
   5+5

6. a) PET scan  
   b) Hysterosalphingography  
   5+5

7. Describe cardiac muscle under the following headings:
   a) Microstructure  
   b) Ultrastructure  
   5+5

8. Describe the development of the following structures:
   a) Intervertebral disc  
   b) Uterus  
   P.T.O.
9. a) Draw a labeled diagram to show the microscopic structure of testes.  
 b) Spermatogenesis and spermiogenesis.

10. Describe placenta under the following headings:  
 a) Development – Add a note on anomalies.  
 b) Histology – Add a note on placental circulation.

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