**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:**

<table>
<thead>
<tr>
<th>Question</th>
<th>Notes</th>
</tr>
</thead>
</table>
| 1. | (a) Define shock and enumerate the different types of shock.  
   (b) Cold shock and warm shock.  
   (c) When is shock termed “fluid refractory”?  
   - 2+(3+3)+2 |
| 2. | What are the various components of APGAR score and how is it scored? Enumerate the neonatal pediatric surgical conditions demanding resuscitation alert.  
   - 6+4 |
| 3. | (a) Principle of SPECT (Single Photon Emission Computerized Tomography).  
   (b) Enlist the clinical situations where it can provide specific information.  
   - 5+5 |
| 4. | What is the Battered Child syndrome? What are the injuries seen in children with this syndrome?  
   - 5+5 |
| 5. | (a) Metabolic complications in an infant with infantile hypertrophic pyloric stenosis.  
   (b) What is paradoxical aciduria?  
   (c) Preoperative resuscitation of a patient with infantile hypertrophic pyloric stenosis.  
   - 4+2+4 |
| 6. | (a) Extracorporeal Membrane Oxygenation (ECMO).  
   (b) Indications and contraindications for use of ECMO in a patient of congenital diaphragmatic hernia.  
   - 4+6 |
| 7. | (a) Classification of hepatoblastoma.  
   (b) PRETEXT staging of hepatoblastoma.  
   - 5+5 |
| 8. | (a) Enumerate the various types of stem cells.  
   (b) Fundamental principles in stem cell transplantation with particular reference to neurodysplasia of the spinal cord.  
   - 4+6 |
| 9. | (a) What is a Randomized Control Trial (RCT)?  
   (b) Advantages and disadvantages of RCTs over other commonly employed research methodologies.  
   - 4+6 |
| 10. | Role of SRY, SOX-9 and the DAX-1 gene in sexual differentiation.  
   - 10 |