Write short notes on:

1. a) Mechanism of thermoregulation in newborns.  
   b) Complications related to hypothermia in neonates undergoing major surgery.  
   5+5

2. 3-D printing and its role in clinical medicine.  
   5+5

3. a) Define tumor markers.  
   b) Tumor markers of germ cell tumors.  
   2+8

4. a) Etiopathogenesis of abdominal compartment syndrome (ACS).  
   b) Principles of management of ACS.  
   6+4

5. a) Classification of sacrococcygeal teratoma.  
   b) What are the factors associated with relatively poor prognosis in patients with sacrococcygeal teratoma?  
   5+5

6. a) What is massive blood transfusion?  
   b) Enumerate its complications.  
   c) Autologous blood donation.  
   3+4+3

7. a) Indications for liver transplantation in the pediatric age-group.  
   b) Types of liver transplantation.  
   6+4

8. a) Classification of severity of brain injury in children by the modified Glasgow Coma Scale (GCS).  
   b) What are the limitations of assessment by the GCS in infants and young children?  
   6+4

9. Embryology of development of the diaphragm.  
   10

10. a) Define Mitosis-Karyorrhexis Index (MKI).  
    b) Modified Shimada prognostic classification of neuroblastoma.  
    c) Enumerate immuno-histochemistry and biochemical diagnosis of neuroblastoma.  
    2+4+4