

4.7 Organogenesis and congenital anomalies

Name: _____ Class: _____ Date: _____

Total: 24 marks

KEY WORDS foramen ovale

Objective

Date congenital anomalies to their construction windows and trace the fetal circulation's transition at birth.

1 Key knowledge and worked examples

■ Windows

Weeks 3–4 tubes (neural, heart); weeks 4–8 septation, palate (7–8), diaphragm (7), limbs; foramen ovale + ductus arteriosus open in the fetus, close at birth (PFO persists ~25%).

■ Worked example: neighbourhood logic

Cleft palate + VSD + thumb anomaly = one week-7 event ✓ – palate shelves, septum and limb patterning were simultaneous neighbours.

2 Practice

2.1 Why must the foramen ovale be open before birth? [3]

2.2 What closes it at birth? [3]

2.3 In which weeks does the palate fuse?

[3]

3 Exam-style questions

3.1 Trace a red cell from the placenta through the fetal heart to the aorta.

List the route including both shunts ✓. State the pressure reason each shunt flows as it does. Predict the immediate postnatal change. [8]

3.2 A newborn has a cleft palate and a heart murmur (fictional).

Date the disruptive event to its window (week 7–8). Explain why two systems share one cause. State the examination this logic demands elsewhere. [7]
