**1.** Which of these statements about the human placenta is **incorrect**?

A. The placenta is the site of nutrient and gas exchange between the mother and fetus.

B. The placenta produces hormones, such as estrogen.

C. The placenta begins to develop after implantation of the blastocyst.

D. The mother’s blood and the baby’s blood mix in the placenta.

(Total 1 mark)

**2.** The umbilical artery carries blood from the fetus to the placenta and the umbilical vein carries blood from the placenta to the fetus. How does the composition of the blood in the umbilical artery and the umbilical vein differ?

A. Blood in the umbilical artery contains less glucose than blood in the umbilical vein.

B. Blood in the umbilical artery contains less carbon dioxide than blood in the umbilical vein.

C. Blood in the umbilical vein contains less oxygen than blood in the umbilical artery.

D. Blood in the umbilical vein contains more urea than blood in the umbilical artery.

(Total 1 mark)

**3.** (b) Outline the role of hormones in the process of birth in humans.

(4)

**1.** D

**[1]**

**2.** A

**[1]**

**3.**

(b) level of progesterone falls before birth;

 oxytocin secreted; from pituitary;

this stimulates contractions of uterus;

uterine contraction/stretching of cervix/vagina stimulates secretion of (more) oxytocin;

form of positive feedback; 4 max