Past Questions on Human Reproduction

Draw a labelled diagram of the male reproductive system.

Label the following parts on your diagram: penis, scrotum, testis, seminal vesicle, urethra, sperm duct (vas deferens), epididymis, prostate gland.

Indicate on your diagram where meiosis occurs.

Indicate on your diagram where sperm are stored and matured.

Indicate where sperm cells are produced.

Indicate where the mixing of fluid with sperm cells occurs.

Indicate where the transport of semen occurs.

State two secondary sexual characteristics of the human male.

more muscle, deep voice, facial hair, enlarged larynx

What maintains the secondary sexual characteristics in the adult human male?

testosterone

What is the function of the prostate gland?

secretes seminal fluid to allow sperm to swim

Draw a labelled diagram of a human sperm cell.

Name the glands that secretes seminal fluid.

seminal vescicle, prostate, cowpers

State a function of seminal fluid.

nourishes sperm and allows sperm to swim

Label the diagram below of the male reproductive system.
Draw a labelled diagram of the female reproductive system

Indicate on the diagram where meiosis, implantation, ovulation and fertilisation occur

Where is the egg formed? **Ovary**

Explain fertilisation **When male gamete nucleus fuses with female gamete nucleus**

Where does fertilisation occur? **Fallopian Tube**

Label the parts of the diagram of the female reproductive system

What is Menstruation? **Loss of lining of the womb when an egg is not fertilised**

What is the menstrual cycle.

Outline the main events of the menstrual cycle.
Monthly cycle in females, 28 days, lining of uterus is shed (lost), lining of womb is repaired, ovulation on day 14, Womb lining maintained until day 28.

Give an account of the role of oestrogen and progesterone in the menstrual cycle.
**Oestrogen repairs womb lining - made by graffian follicle**, **Progesterone maintains womb lining - made by corpus luteum**

Name a human female menstrual disorder. **Fibroids - non cancer growth in womb wall**

In the case of this disorder give:
A possible cause. **Hormonal imbalance**
A method of treatment. **Surgical removal of large fibroids**
The graphs illustrate changes in the levels of two hormones, A and B, which are involved in the development of the endometrium, during the human female menstrual cycle.

Name these hormones.

A _______________________

B________________________

What happens in the ovary on day 14 of the cycle?

Ovulation - egg released.

Where is FSH produced? ____________________________

Give one function of FSH ____________________________

Stimulates immature eggs in ovary to develop into graffian follicles

Which graph, A or B, represents the hormone secreted by the corpus luteum (yellow body)? ______

Draw a line graph in the space above A and B to illustrate the changes that take place in the thickness of the endometrium over the course of the cycle.

What is fertilisation ____________________________

fusion of male gamete nucleus to female gamete nucleus

From what tissues is the placenta formed? Cells from mothers womb lining and cells from trophoblast

Allows oxygen to move from mothers blood to embryos blood Allows wastes to move from embryos blood to mothers Makes progesterone to maintain womb lining

Give 3 functions of the placenta. ________________

What is the morula? ____________________________

solid ball of cells identical produced by mitosis from the zygote.

What is the blastocyst? ____________________________

Hollow ball of cells produced by mitosis from zygote. Inner mass of cells forms the embryo, outer part forms trophoblast (attaches to womb lining)

Outline the survival times for sperm and ova. ____________

sperm 3 days, ____________ egg 2 days

State two ways in which sperm differ from ova (eggs). ________________

sperm has a tail, egg doesn't, Sperm is smaller than egg

What is a germ layer? ____________________________

Layer of cells in early embryo from which different body systems develop

List the three germ layers. ________________

Ectoderm Mesoderm Endoderm

Relate each of the germ layers that you have listed in to an organ or system in the adult body

Endoderm ____ lining of digestive sys Mesoderm ____ Digestive sys + skeleton Ectoderm ____ Skin + nervous system

Describe the amnion and state its role.

A membrane around foetus (embryo) it secretes amniotic fluid to cushion / protect ________________

Placenta stops producing progesterone, Pituitary produces oxytocin, Baby moves so that its head is down at cervix. Cervix dilates. Amnion breaks releasing fluid. Uterus contracts pushing out baby through vagina. Placenta pushed out.
Explain why breast feeding stimulates the release of breastmilk.

Stimulates release of prolactin hormone.

Give two biological advantages of breastfeeding. Breastmilk contains correct balance of nutrients, its sterile, correct temperature, contains mothers antibodies to prevent illness in baby.

Explain the term infertility. Not being able to become pregnant or have a child.

What does in vitro fertilisation mean? Egg and sperm are fuse in a glass dish in a lab, outside body.

What is done to the products of in vitro fertilisation? Implanted into mothers womb.

Give a cause of infertility in women and suggest a corrective measure. Inability to ovulate caused by hormonal imbalance (not enough FSH) treated with hormone injections.

Give a cause of male infertility and suggest a corrective measure. Low sperm count caused by smoking, drug abuse, alcohol abuse, hormone imbalance. Treated with stopping drug taking, hormone injections.

Name the principal male sex hormone. Testosterone.

State two functions of testosterone. Develops primary sex characteristics (penis, testis development), secondary sex characteristics (facial hair, deep voice, more muscle).

Where is testosterone secreted in the body of the human male? Testis.

Name a hormone associated with the maintenance of the placenta. Progesterone.

Which part of the female reproductive system is influenced by both FSH and LH? Ovary.

What is meant by contraception? Preventing pregnancy, preventing fertilisation, preventing implantation.

Give an example of a surgical method of male contraception. Vasectomy - cutting of sperm duct.

Suggest an advantage and a disadvantage of the method that you have named. Advantage - 100% guaranteed to prevent sperm production/pregnancy, disadvantage - irreversible.

List three methods of contraception other than surgical and explain how each method of contraception works.

Mechanical - condom covers penis forms a barrier to prevent sperm entering woman's body.

Chemical - contraceptive pill contains oestrogen and progesterone which prevents ovulation.

Natural - avoiding sex during fertile period of menstrual cycle.

Suggest an effect on a human population that may result from an increased availability of contraception. Population will fall.