**A. Hormonal control in humans – Part 1**

1. What is the endocrine system composed of?
2. What is a hormone?
3. How are hormones carried around the body?
4. Which acts faster, the nervous system or the endocrine system?
5. Where is the pituitary gland?
6. What is the role of the pituitary gland?
7. Name the hormones that the pancreas releases.
8. Where is thyroxine produced?
9. What is the role of thyroxine?

**Higher tier**

1. Name the hormones released by the pituitary gland.
2. Where is adrenaline produced?
3. What does adrenaline prepare the body to do?
4. What effect does adrenaline have on the heart?

**B. Hormonal control in humans – Part 2**

1. What is the name of the two main female reproductive hormones?
2. Where are these two female hormones made?
3. What is the menstrual cycle and how long is it?
4. What are the roles of the two main female hormones in the menstrual cycle?
5. At what stage of the menstrual cycle is an egg released and what is this event called?
6. Where is the egg released from?
7. Where does the egg travel to?
8. What happens to the egg if it becomes fertilised?
9. What happens to the egg if it does not become fertilised?
10. What happens on day 1 of the menstrual cycle?
11. What happens to the lining of the uterus if a woman becomes pregnant?
12. What does the term contraception mean?
13. How does the contraceptive pill work?
14. How do contraceptive implants and injections work?
15. What is a spermicidal agent?
16. Name 2 barrier methods of contraception and say how they work.
17. What is the coil and how does it work?
18. Higher tier
19. Where is FSH released and what is its role in the menstrual cycle?
20. Where is LH released and what is its role in the menstrual cycle?
21. What do high levels of oestrogen stimulate the release of?
22. What do high levels of oestrogen inhibit the release of?
23. What do high levels of progesterone inhibit the release of?
24. What does ART stand for?
25. What is clomifene therapy and how does it work?
26. What is IVF?
27. Describe the IVF process.
28. Describe some issues with IVF treatment.

**C. Homeostasis – Part 1**

1. Define homeostasis.
2. Why does homeostasis need to maintain optimal conditions?
3. List three conditions that the body needs to maintain.
4. State the optimum human body temperature.
5. What part of the brain monitors and controls temperature?

**BIOLOGY ONLY:**

1. Describe what happens in vasoconstriction and vasodilation.

**D. Genetics – Part 4**

1. What happens to the glucose in the blood when insulin is released?
2. Which type of diabetes is caused when the body cells no longer respond to insulin?
3. State how Type 1 diabetes is treated.
4. State how Type 2 diabetes is treated.
5. Where is insulin produced?
6. What do the initials BMI stand for?
7. What is BMI used for?
8. What two measurements are required in order to calculate BMI?
9. What other measurements can be used to give an indication of whether a person is in a healthy weight range?

**Higher Tier**

1. Describe the role of glucagon in the regulation of blood glucose?

**E. Homeostasis – Part 3**

1. State the ways in which water is lost from the body.
2. Sweat contains mostly water. What else can be found in sweat?
3. What is removed via the kidneys in the urine?
4. What is a hypertonic solution?
5. What is an isotonic solution?
6. What is a hypotonic solution?
7. What happens to animal cells when they are put in water?
8. What happens to animal cells when they are put in a concentrated sugar solution?
9. HT: What happens to excess proteins in the diet?
10. HT: What does deaminated mean?
11. HT: What is ammonia converted to in the liver?
12. Label A – G on the diagram below.



1. Name the structures in the kidneys where the blood is filtered.
2. What are the 3 steps in the blood filtering process?
3. Describe what happens in each of the 3 steps of the blood filtering process.
4. HT: Where in the body are the water levels in the blood monitored?
5. HT: Name the hormone that controls the water levels in the blood.
6. HT: What effect does increased levels of this hormone have on the kidneys?
7. HT: Describe what happens in the body when the water content of the blood is too low?
8. HT: Describe what happens in the body when the water content of the blood is too high?
9. How does kidney dialysis treat kidney failure?
10. Describe how the dialysis machine works.
11. How does a kidney transplant treat kidney failure?
12. State the advantages and disadvantages of kidney dialysis and kidney transplants.