

# **AQA 9-1 BIOLOGY (H) PAPER**

## **2 TEST - SET 1**

Name:

Date:

### **GCSE Combined Science**

### **practice questions - like the exam!**

1hr 15 mins allowed for the paper. Max marks = 70

For markers use only:

Markers signature :

Achieved marks

Q1 =

Q2 =

Q3 =

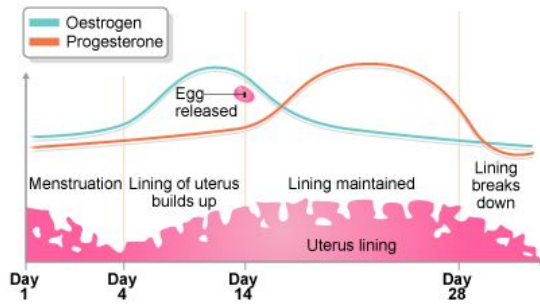
Q4 =

Q5 =

Q6 =

Q7 =

**Q1. FIGURE 1** Here is a diagram of the menstrual cycle:



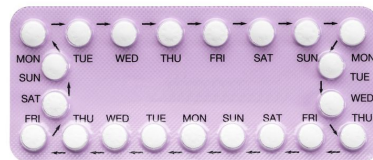
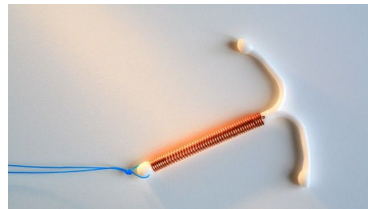
**Q1.1** Where is LH produced in the female endocrine system? [1 mark]

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**Q1.2** Using figure 1, describe the trends of the graph. [4 marks]

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**Q1.3** Name these 3 methods of contraception [3 marks]



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**Q1.4** What does FSH do? [1 mark]

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**Q5. This question is about biodiversity.**

**Q5.1** How can biodiversity be preserved? **[2 marks]**

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**Q5.2** Compare the factors that can contribute to a lack of biodiversity. **[4 marks]**

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**Q5.3** What is deforestation causing? **[1 mark]**

**Loss of water**

**Soil erosion**

**More trees being produced**

**Too many species mating**

**Q5.4** What is interdependency? **[2 marks]**

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**Q5.5** What type of pollution causes animals to find it hard to camouflage? **[1 mark]**

**Air**

**Water**

**Q6. This question is about evolution.**

**Q6.1 Outline the theory of evolution. [4 marks]**

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**Q6.2 What is speciation? [2 marks]**

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**Q6.3 What is a fossil and how is it made? [3 marks]**

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**Q6.4 Why are there still gaps in the fossil record? [1 mark]**

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**Q7. This question is about cells and their functions.**

**Q7.1** What is the human genome and why do we investigate it? **[3 marks]**

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**Q7.2** How do genes that are homozygous and heterozygous differ? **[2 marks]**

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**Q7.3** What are the advantages & disadvantages to embryo screening? **[4 marks]**

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**END OF QUESTIONS**



## EXAM MARK SCHEME:

Q1.1 = Pituitary Gland

Q1.2 = Oestrogen builds up at day 4, egg released about day 7, lining is maintained, breaks down at day 28. Progesterone, large increase at day 14, breaks down rapidly at 28 etc

ANY VALID POINTS would get 4 marks.

Q1.3 = Condom, IUD, Contraceptive Pill

Q1.4 = Causes an egg to mature in the ovary.

Q2.1 = Choose point to measure distribution

Use random numbers to generate a set of coordinates for first quadrat

Count no of plants

Generate more coordinates

Repeat 1-4

Calculate a mean for each location

ANY OTHER VALID POINTS.

Q2.2 =  $50 \times 100 / 0.25 = 20,000$ ,  $0.62 \times 20,000 = 12400$  bluebells

Q2.3 = To reduce the effect of random errors.

Q3.1 = Animals, Plants, Fungi, Protists, Prokaryotes

Q3.2 = Indicative content

Archaea = a domain of single-celled microorganisms. Primitive bacteria usually living in extreme environments. (Extremophiles, Thermophiles)

Bacteria = True bacteria - Cyanobacteria etc...definition of a bacteria. Multiply in 20 mins

Eukaryota - cells, animals, fungi, plants etc...

OTHER VALID POINTS.

Q3.3 A class of things which have common characteristics and which can be divided into subordinate kinds. PHRASING not need to be specific for mark.

Q4.1 = Gives you a baby, good for people who cannot get pregnant.

Have to take many drugs, very expensive, doesn't always work, 40% success rate, mother gets FSH & LH, collected from mother & fertilised by sperm. Tiny balls of embryos implanted into womb. ANY OTHER VALID POINTS (accept diagrams)

Q4.2 = Diploid cells - two identical daughter cells.

Q4.3 = 4 different daughter cells. Haploid cells.

Q4.4 = Male = Pollen, Female = Egg

Q5.1 = Charities, governments & individuals all working together to preserve life.  
Q5.2 = Air pollution, water pollution, traffic, poor home environment, no trees, plastic pollution etc Any other valid points etc...

Q5.3 = soil erosion

Q5.4 = where everything within an ecosystem relies on each other to co-exist.

Q5.5 = Air

Q6.1 = Life began as simple organisms. 3 billion yrs ago, life evolves from the organism's, genes passed on, natural selection, Darwin's theories. Any other valid points would get 4 marks.

Q6.2 The formation of new and distinct species in the course of evolution..

Q6.3 = Fossils come from bones, not left by soft parts due to decay, changes that happen in the world. Decomposition factors. An impression from many years ago.

Q6.4 = Due to most early life being soft bodied.

Q7.1 = The human genome is the complete set of nucleic acid sequences for humans, encoded as DNA within the 23 chromosome pairs in cell nuclei and in a small DNA molecule found within individual mitochondria. Help with inherited disorders etc.

Q7.2 = Homoz' - the same celss, Heteroz' = different cells

Q7.3 = Embryo screening can be a genetic match for siblings, healthy embryos implanted, disadvantages i.e destroying life, genetic disorder, designer babies & religious objection - ANYTHING VALID WOULD GET 4 MARKS.

## **END OF MARK SCHEME**

### **GRADE BOUNDARIES:**

These are **NOT** an accurate representation of what you would get but this is what I would base the grades on.

MARKS to get the grade:

4 = 13 marks

5 = 22 marks

6 = 29 marks

7 = 38 marks

8 = 49 marks

9 = 57 marks