



Oxford Cambridge and RSA

Friday 18 May 2018 – Afternoon

AS GCE CRITICAL THINKING

F501/01/RB Introduction to Critical Thinking

RESOURCE BOOKLET

Duration: 1 hour 30 minutes

To be issued with the Question Paper



INSTRUCTIONS TO CANDIDATES

- Read all the documents before starting to answer the questions.

INFORMATION FOR CANDIDATES

- The information contained in this Resource Booklet was accurate when it went to press, but may subsequently have changed. Questions should be answered on the basis that the information is correct.
- This document consists of **4** pages. Any blank pages are indicated.

INSTRUCTION TO EXAMS OFFICER/INVIGILATOR

- Do not send this Resource Booklet for marking; it should be retained in the centre or recycled. Please contact OCR Copyright should you wish to reuse this document.

Document 1

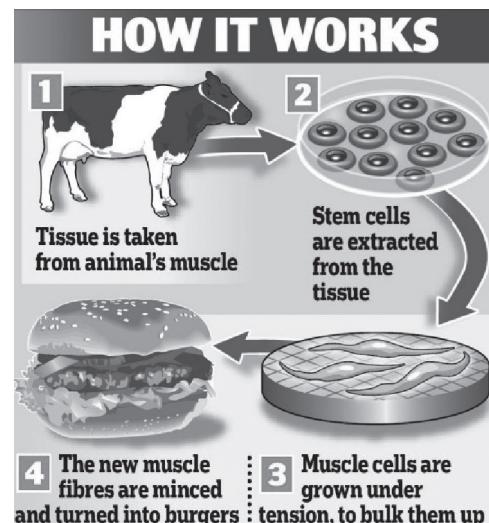
Will the public eat In Vitro Meat?

A Dutch professor, Dr Post, has been given €300 000 (approximately £240 000) to create a new burger from meat grown in a laboratory. Known as In Vitro Meat (IVM), it is being developed as a more animal friendly and a potentially healthier alternative to conventional meat. It should also be one answer to the anticipated crisis in producing enough meat to feed the world's fast growing population. According to the Food and Agriculture Organisation (FAO) between 1961 and 2007, the consumption of meat by the British public increased by 20%. As this trend shows no sign of stopping, and the global data analysis report by the FAO shows that most people are not keen on a big reduction of meat in their diet, an alternative sustainable way of producing meat is required.

However, scientists may underestimate humankind's strong emotional attachment to *naturally* produced food. Newspaper photographs of demonstrations in Europe against genetically modified (GM) foods should convince us of that. Yet GM foods are a lot more natural than meat grown by someone in a white lab coat!

• How is it made?

However, **Dr Post** who is on the frontline of research in IVM, is reassuring when he says, "Some people think it is the same as GM food, but it's not. We use exactly the same process that happens in nature." It involves taking muscle stem cells from an animal (without the need for slaughter) and then soaking the cells in a nutrient-rich plant solution. As the cells develop, they attach to a natural sponge-like framework which is 'exercised' with electrical impulses to form muscle tissue. He added, "We can also play with the variables, saturated fats, polyunsaturated fats and nutrients, to hopefully produce healthier meat."



• Is it safe?

IVM researchers also reassure us that IVM should hopefully be safer, as conventional meat is a major cause of food poisoning, whereas IVM is produced in conditions that are free from contamination caused by harmful bacteria. However, a **newspaper health correspondent** warns, "There could be unforeseen health consequences to eating lab-grown meat, amongst which could be allergies to some of the ingredients. As a result, IVM ought to be carefully tested in clinical trials before we even start to think of it as a substitute for proper meat".

• How much does it cost?

Under present conditions it will cost about £13 000 per kilo. However, some people including **IVM researchers**, hope prices will drop dramatically if the procedure can be industrialised on a large scale. One researcher claims, "A fully operational factory could produce In Vitro Meat for only £3 per kilo".

• How does it taste?

Although no one is presently allowed to taste IVM, a **Russian TV journalist**, who visited the lab to film its work, apparently sampled it before he could be stopped. He was unimpressed and said "It was chewy and tasteless". However, IVM researchers claim that they anticipate being able to customise it to individual taste, so they are convinced the meat eating public will soon get used to it, especially when meat shortages mean they no longer have a choice.

Document 2

Is In Vitro Meat an answer for those concerned about animal rights and the environment?

Some vegetarians are opposed to IVM such as this **member of the Dutch Vegetarian Society** who said, "It might be claimed that IVM would save the lives of the billions of animals killed for food every year. However, this is already preventable because we have the choice of being vegetarian."

As the reasons for becoming vegetarian are varied, it is not surprising that vegetarians have very different responses to IVM. In contrast, the **Chairman of the Dutch Vegetarian Society** says, "Probably half of our vegetarian members would eat IVM, if it meant fewer animals were killed and farming was less intensive."

People for the Ethical Treatment of Animals (PETA), who have been calling for lab grown meat for years and have been funding some of the research, claim, "IVM is meat produced without the cruelty, carbon footprint or waste of resources of conventional farming. It's a hugely beneficial development for animals. We welcome this development. PETA has no objection to the eating of meat. PETA simply objects to the killing of animals and their exploitation."

Document 3

Does the world need more meat?

Forum posts:

US contributor

I would like to tell you all how amazing this IVM technology is. Unless you belong to one of the privileged countries, you don't have a choice. You need to eat what is there, and for many people that is meat. IVM is like the next phase of evolution in agriculture. I don't see any downside for vegetarians or anyone else. Is there a growing trend of people not eating meat? Arguably no. Therefore the world needs more meat.

Australian contributor

In fact, the quantity of meat consumption by some people is reducing their level of health. I really don't think that anyone needs meat so badly that we have to waste resources and scientific talent by resorting to IVM burger options. So, if our goal is to feed more people, encouraging vegetarianism is the way to go.

www.ted.com/conversations

Our mission: *TED is a non-profit making organisation, bringing together people from Technology, Entertainment, and Design. We believe passionately in the power of ideas to change attitudes, lives and, ultimately, the world. So we're building here a forum that offers free knowledge and inspiration from the world's most inspired thinkers, and also a community of curious souls to engage with ideas and each other.*

This site, launched in April 2007, is ever-evolving.



Oxford Cambridge and RSA

Copyright Information

OCR is committed to seeking permission to reproduce all third-party content that it uses in its assessment materials. OCR has attempted to identify and contact all copyright holders whose work is used in this paper. To avoid the issue of disclosure of answer-related information to candidates, all copyright acknowledgements are reproduced in the OCR Copyright Acknowledgements Booklet. This is produced for each series of examinations and is freely available to download from our public website (www.ocr.org.uk) after the live examination series.

If OCR has unwittingly failed to correctly acknowledge or clear any third-party content in this assessment material, OCR will be happy to correct its mistake at the earliest possible opportunity.

For queries or further information please contact the Copyright Team, First Floor, 9 Hills Road, Cambridge CB2 1GE.

OCR is part of the Cambridge Assessment Group; Cambridge Assessment is the brand name of University of Cambridge Local Examinations Syndicate (UCLES), which is itself a department of the University of Cambridge.