

DOORNFONTEIN



<u>PROGRAM</u>	: NATIONAL DIPLOMA
	: ANALYTICAL CHEMISTRY
<u>SUBJECT</u>	: COMMUNICATION SKILLS (MODULE B)
<u>CODE</u>	: CSA1BB1
<u>DATE</u>	: SUPPLEMENTARY EXAMINATION
	: 19 NOVEMBER 2018
<u>DURATION</u>	: 3 HOURS
<u>TOTAL MARKS</u>	: 100
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<u>EXAMINER</u>	: DR J. RAMHURRY
<u>MODERATOR</u>	: MR T. MABUNDA
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<u>INSTRUCTIONS</u>	: DICTIONARIES ARE PERMITTED
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<u>REQUIREMENTS</u>	: MARKS WILL BE DEDUCTED FOR POOR GRAMMAR, SPELLING AND SLOVENLY WORK
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QUESTION ONE

REFERENCING

1.1 Choose the correct answer. (1)

The difference between a citation and a reference is:

- a) No difference
 - b) The reference is the full bibliographic detail that you would include in the list at the end of your work; the citation is the brief information you would include in your text.
 - c) The citation is the full bibliographic details that you would include in the list at the end of your work; the reference is the brief information you would include in your text.
 - d) A citation is a reference to another piece of work in something you have read.
- (1)

1.2 You do not need to reference:

- a) Statistics
 - b) Newspaper articles
 - c) Your own ideas
 - d) TV programmes
- (1)

1.3 You quote from Chris Hart's book in an assignment and want to include it in your reference list.

The correct way to do this is:

- a) Doing a literature review: releasing the social science research imagination by Chris Hart published by Sage, 1998
- b) Hart, C. (1998) *Doing a literature review: releasing the social science research imagination*. London: Sage
- c) Hart, Chris Doing a literature review: releasing the social science research imagination Sage
- d) In terms of discovery very little research actually discovers anything new. Chance and the ability to make connections between seemingly unrelated factors is what often results in what we call discovery.' Hart, 1998.
- e) Chris Hart. 1998. Doing a literature review: releasing the social science research imagination. London: Sage

(1)

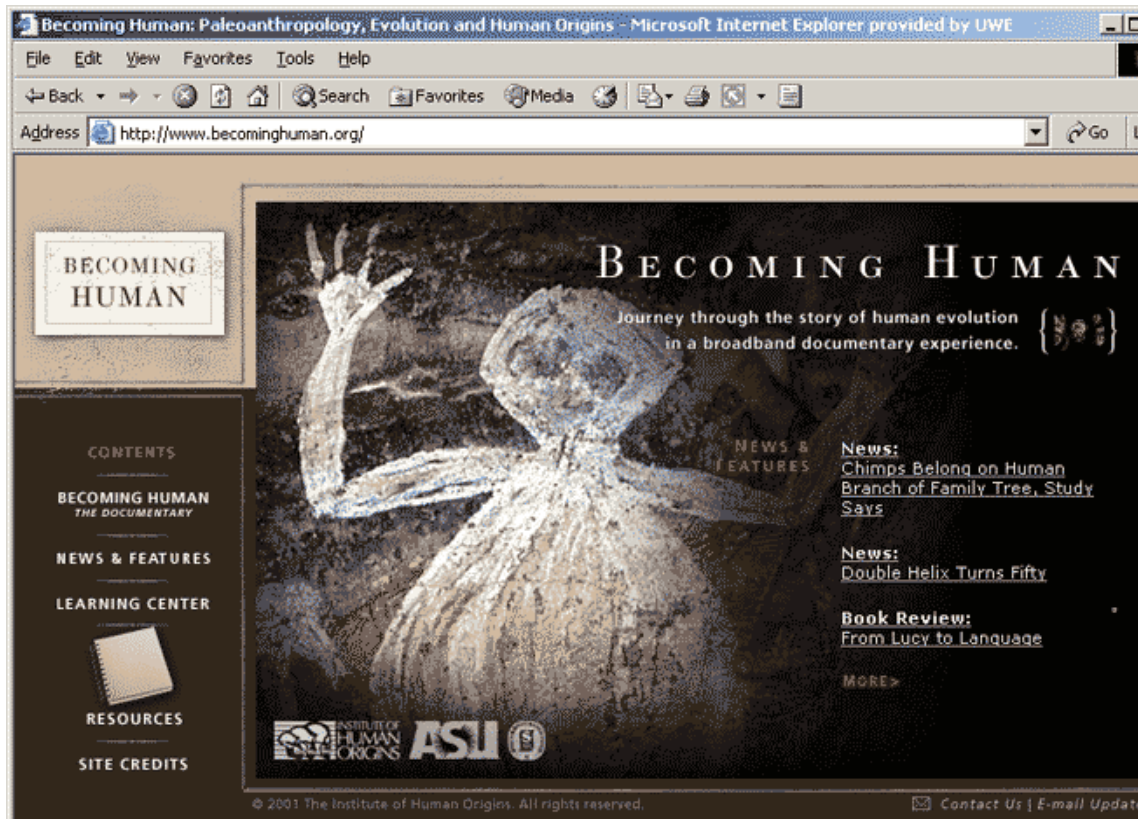
1.4 The correct way to reference a journal article is:

- a) Broadbridge, Adelina and Swanson, Vivien *Earning and learning: how termtime employment impacts on students' adjustment to university life*. Journal of Education and Work 18 (2) pp235-249.
- b) Broadridge A. & Swanson, V. (2005) Earning and learning: how termtime employment impacts on students' adjustment to university life. *Journal of Education and Work*, 18 (2) pp 235-249
- c) BROADBRIDGE, A., SWANSON, V. Earning and learning: how termtime employment impacts on students' adjustment to university life. *Journal of Education and Work*, Vol 18, Issue 2. June 2005.

- d) Broadbridge, Adelina; Swanson, Vivien. 2005 Earning and learning: how termtime employment impacts on students' adjustment to university life. *Journal of Education and Work*, 18 (2) pp 235-249.

(1)

1.5 You include information from the web page below in an assignment:



The correct way to reference the above web page is:

- a) INSTITUTE OF HUMAN ORIGINS, 2005. *Becoming Human* [online]. Available from: <http://www.becominghuman.org/>
- b) Becoming Human. Available from: <http://www.becominghuman.org/> [Accessed 4th October, 2005]
- c) INSTITUTE OF HUMAN ORIGINS (2005). *Becoming Human* [online]. Available from: <http://www.becominghuman.org/> [Accessed 4th October, 2005].
- d) INSTITUTE OF HUMAN ORIGINS, 2005. *Becoming Human*. Available from: <http://www.becominghuman.org/> [Accessed 4th October, 2005].

(1)

6. If you have included a direct quotation in your assignment from this book,

Veal, A. (2010) Leisure, sport and tourism: politics, policy and planning, 3rd edn, CABI, Wallingford, Oxfordshire.

How would you write the in-text citation?

- a. (Veal p. 126)
- b. (Veal 2010)
- c. (Veal 2010, p. 126)
- d. (Veal 2010, Chapter 6, p. 126)

(1)

7. Buckley, R. (2009) 'White-water tourism', in B Prideaux & M Cooper (eds), River tourism, CABI, Wallingford, UK, pp. 181-196.

What is the name of the Book Chapter?

- a. White-water tourism
- b. River tourism
- c. CABI, Wallingford
- d. Insufficient information

(1)

8. If you are paraphrasing from a 2008 publication by Nick Economou and Stephen Tanner, how should you cite the reference in the text of your assignment?

- a. (Nick Economou & Stephen Tanner, 2008)
- b. (N Economou & S Tanner 2008)
- c. (Economou, N & Tanner, S 2008)
- d. (Economou & Tanner 2008)

(1)

9. You quote from Chris Hart's book in an assignment and want to include it in your reference list.

The correct way to do this is:

- a. Doing a literature review: releasing the social science research imagination by Chris Hart published by Sage, 1998
- b. Hart, C. (1998) *Doing a literature review: releasing the social science research imagination*. London: Sage
- c. Hart, Chris **Doing a literature review: releasing the social science research imagination** Sage
- d. In terms of discovery very little research actually discovers anything new. Chance and the ability to make connections between seemingly unrelated factors is what often results in what we call discovery.' Hart, 1998.
- e. Chris Hart. 1998. Doing a literature review: releasing the social science research imagination. London: Sage

(1)

10. **The correct way to reference a journal article is:**

- a. Broadbridge, Adelina and Swanson, Vivien *Earning and learning: how termtime employment impacts on students' adjustment to university life*. **Journal of Education and Work** 18 (2) pp235-249.
- b. Broadridge A. & Swanson, V. (2005) Earning and learning: how termtime employment impacts on students' adjustment to university life. *Journal of Education and Work*, 18 (2) pp 235-249
- c. BROADBRIDGE, A., SWANSON, V. Earning and learning: how termtime employment impacts on students' adjustment to university life. *Journal of Education and Work*, Vol 18, Issue 2. June 2005.
- d. Broadbridge, Adelina; Swanson, Vivien. 2005 Earning and learning: how termtime employment impacts on students' adjustment to university life. *Journal of Education and Work*, 18 (2) pp 235-249.

(1)

[10 MARKS]

QUESTION TWO

SUMMARISING SKILLS

Summarise the passage below (512 words) to a quarter of its length (130 words)

Mark allocation:

Content (5)

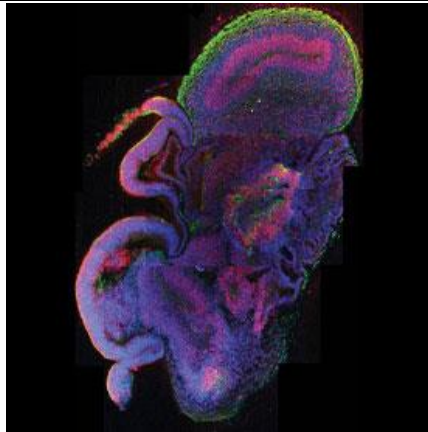
Style (5)

Structure (5)

Stem Cells Mimic Human Brain

Studying such 'mini-brains' helps researchers look into neurological diseases in living human tissue

By [Helen Shen](#) and [Nature magazine](#) | Wednesday, August 28, 2013



A cross-section of a brain-like clump of neural cells derived from human stem cells. *Image: Madeline A. Lancaster*

With the right mix of nutrients and a little bit of coaxing, human stem cells derived from skin can assemble spontaneously into brain-like chunks of tissue. Researchers provide the first description and [application](#) of these 'mini-brains' today in *Nature*.

"It's a seminal study to making a brain in a dish," says Clive Svendsen, a neurobiologist at the University of California, Los Angeles, who was not involved in the study. "That's phenomenal." A fully formed artificial brain might still be years away, he notes, but the pea-sized neural clumps developed in this work could prove useful for researching human neurological diseases.

Researchers have previously used human stem cells to grow [structures resembling the eye](#) and even tissue layers similar to the [brain's cortex](#). But in

the latest advance, scientists developed bigger and more complex neural-tissue clumps by first growing the stem cells on a synthetic gel that resembled natural connective tissues found in the brain and elsewhere in the body. Then, they plopped the nascent clumps into a spinning bath to infuse the tissue with nutrients and oxygen.

“The big surprise was that it worked,” says study co-author Juergen Knoblich, a developmental biologist at the Institute of Molecular Biotechnology in Vienna. The blobs grew to resemble the brains of fetuses in the ninth week of development.

An imperfect copy

Under a microscope, researchers saw discrete brain regions that seemed to interact with one another. But the overall arrangement of the different proto-brain areas varied randomly across tissue samples — amounting to no recognizable physiological structure.

“The entire structure is not like one brain,” says Knoblich, adding that normal brain maturation in an intact embryo is probably guided by growth signals from other parts of the body. The tissue [balls](#) also lacked blood vessels, which could be one reason that their size was limited to 3–4 millimeters in diameter, even after growing for 10 months or more.

Despite these limitations, the authors used the system to model key aspects of microcephaly, a condition that causes extremely stunted brain growth and cognitive impairment. Microcephaly and other neurodevelopmental disorders can be difficult to replicate in rodents because of species-specific [differences](#) in brain development.

The researchers found that tissue chunks cultured from stem cells derived from the skin of a single human with microcephaly did not grow as big as clumps grown from stem cells derived from a healthy person. They traced this effect to the premature differentiation of neural stem cells inside the microcephalic tissue chunks, depleting the population of progenitor cells that fuels normal brain growth.

The findings largely [confirm](#) prevailing theories about microcephaly, says Arnold Kriegstein, a developmental neurobiologist at the University of California, San Francisco. But, he adds, the study also demonstrates the potential for using human-stem-cell-derived tissues to model other disorders, if cell growth can be controlled more reliably.

“This whole approach is really in its early stages,” says Kriegstein. “The jury may still be out in terms of how robust this is.”

This article is reproduced with permission from the magazine [Nature](#). The article was [first published](#) on August 28, 2013.

[15]

QUESTION THREE

THE MEMORANDUM

The pharmaceutical company at which you work (Elite Industries Ltd.) has decided to provide internet surfing facilities to all its employees.

As the Managing Director of this company, draft a memo to be circulated among all Divisional Heads containing the following details:

The location, number of computers to be made available, times in which the facility can be used and procedure for lodging complaints, if any. Provide all the necessary details.

Mark Allocation:	Format	- 3
	Content	- 8
	Language	- 4

[10]

QUESTION FOUR

THE LETTER OF APPLICATION (20 MARKS)

Refer to the following advertisement which was posted in the Sunday Times on the 22 April 2013. Write a letter of application for the available position.

Marks will be allocated as follows:

Format (3)
Content (7)
Style (5)

Advert Details



Job Title

Technical Manager ICP-OES & ICP MS

Reference

TechMan/Geo/1708

Advert Details

Recruiter: SGS South Africa (Pty) Ltd.

Updated on: 2013-08-23 00:00:00

AA/EE: Applicable

Contract: Permanent

Location: Gauteng

Available: Negotiable

Category: Mining

Offer: Negotiable

Introduction

Technical Manager required for our Geochem Division - (Analytical) based oin Booyens. BSc. Chemistry or National Diploma in Analytical Chemistry. 5 years post graduate experience in analytical chemistry, in particular ICP-OES, ICP-MS, and AAS, as well as management of a laboratory. All appointments will be subject to Medical Clearance.

Minimum Requirements

5.1 Education

- BSc. Chemistry or National Diploma in Analytical Chemistry

5.2 Experience

- 5 years post graduate experience in analytical chemistry, in particular ICP-OES, ICP-MS, and AAS, as well as management of a laboratory

5.3 Competencies

- Mastery in technical knowledge of analytical processes
- Able to work with technical and management staff
- Able to coordinate and motivate a team towards a common goal
- Energy to motivate a team to always deliver results
- Able to work independently and to coordinate several activities simultaneously
- Good communication and interpersonal skills
- Has extensive knowledge of international standards and specifications used by the industry
- Is innovative with a systematic approach for problem solving
- Acts quickly and decisively; able to make tough calls
- Holds self and others accountable

- ☐ Works well under pressure.
 - ☐ Challenges the status quo
 - ☐ Fluent English
-

[20]

QUESTION FIVE

THE INVESTIGATIVE REPORT

The international chemical company, Kemco Ltd. is considering a proposal to establish a new factory in Johannesburg. The Managing Director, Mr Bates, has asked you to write a report on the suitability of the place for the establishment of the factory. A report, with recommendations, is to be prepared and handed to him on the 20 December 2013. Write the entire report.

Include the following details:

1. Write suitable 'Terms of Reference' for this report. (6)
2. Write 2 procedures (4)
3. Write 3 findings on each procedure (6)
4. Write 3 recommendations (4)

[20]

QUESTION SIX

THE ACADEMIC ESSAY

Write an essay of approximately one page in length in response to ONE of the following arguments:

1. Chemistry has a bad name when it comes to the topic of terrorism. Many people associate chemistry with chemical weapons and warfare, even though applications from chemistry are more often used in counterterrorism. Chemistry plays an important role in counter-proliferation, threat evaluation, modelling, detection, incident response, and chemical defence, including development and use of nonlethal devices. Argue for or against the opinion above.

2. Human beings do not need to eat meat in order to maintain good health because they can get all their food needs from meatless products and meatless substances. A vegetarian diet is as healthy as a diet containing meat. Argue for or against the opinion above.
3. Analytical chemistry is a challenging profession that makes significant contributions to the field of forensic science. Do you agree? Substantiate.
4. Analytical chemistry methods using robots and instrumentation specifically designed to prepare and analyze samples have recently become automated. In addition, increasingly powerful personal computers and workstations are enabling the development and use of more sophisticated techniques and methods of interpreting data. As a result, fewer chemists are required to prepare the sample and measure and interpret the data. This trend in the analytical chemistry industry may have serious implications for the careers of young graduates in this field. Discuss your views on the above point.

Mark breakdown

Content (what you say in your essay) (10)

Structure (how you organize your content) (10)

Style (How you express your ideas using elements such as sentence variety, word usage, and tone) (5)

(25 MARKS)

TOTAL 100
