## Desirable features

#### High-quality performance is evidenced by:

<u>УЕARS 7-9</u>

- deep understanding and mastery of aspects of language use with respect to style, tenor and intention. This task demands language use in the following ways:
- p récis writing, protocols of introduction and formal correspondence
- explaining chemical and biological structures and systems with due regard to nomenclature and notations of science.
- accurate and detailed knowledge of a range of scientific techniques, and meaningful contribution to laboratory activities.
- deep analysis of a biotechnological issue, examined by means of presentation abstracts for six real-life people who can be seen to make distinctive, valuable contributions and who collectively fulfil the conference aim to foster appreciation of the range of views uncovered.

#### Acceptable performance (successful task completion) is evidenced by:

• identification of the science and ethical implications of an issue in a biotechnological process.

# Science and Ethics Confer

#### **New Basics referents**

#### Multiliteracies and communications media

• Mastering literacy ...

#### Active citizenship

What are my rights and responsibilities in communities, cultures and economies?

#### **Environments and technologies**

- · Developing a scientific understanding of the world
- Working with ... engineering technologies

#### **Targeted repertoires of practice**

- Applying the etiquette of formal correspondence
- Applying the protocols of introduction
- Compiling an academic program for a conference
- Focused research and analytic skills
- Laboratory practices
- Organising ideas and data, sifting through them, arranging them wisely and making sense of them
- Précis writing with a purpose
- Time management
- Understanding various biological structures and systems, and the associated concepts, nomenclature and notations
- Understanding various chemical structures and systems, and the associated concepts, nomenclature and notations
- Understanding what constitute ethical questions and principles

Students will identify, explore and make judgments on a biotechnological process to which there are ethical dimensions. They will identify scientific techniques used, along with significant recent contributions to the field. They will also research frameworks of ethical principles for coming to terms with an identified ethical issue or question. Using this information, they will prepare pre-conference materials for an international conference that will feature selected speakers who are leading lights in their respective fields.

Undertake laboratory activities to help you understand some laboratory practices.

A) Provide a written explanation of the fundamental technological differences in some of the techniques used, or of potential use, in this area. (Include this in the pre-conference package for delegates who are not necessarily experts in science.)

Choose and explore an

area of biotechnology

where there are ethical

issues under consideration.

ethical issues and questions. **B)** Consider the range of ethical issues raised in regard to this area's purposes and actions, and scientific techniques and processes.

Research frameworks of ethical

principles for coming to terms with

For an issue about which there is ethical debate, present a deep analysis of that issue in terms of a relevant ethical framework.

 Students must provide a folio containing all information on which their work is based.

that will be focuses of the conference speeches.

Highlight aspects

Identify six real-life people you would choose to be keynote speakers, each of whom could make a valuable contribution to the proceedings of an international conference with the theme 'Biotechnology: Science and Ethics Confer'. Your choice of speakers should help fulfil your personal aim that the conference foster appreciation of the range of views you uncovered in **B** and showcase scientific research/advancements which have resolved, or might resolve, one of the ethical objections.

You should be able to use the précis to introduce the speakers at the

conference

For each speaker, indicate his/her contribution by providing a précis of 150-200 words which gives: the credentials of the speaker; why the speaker is eminent in your chosen area; and what the speaker will be contributing through her/his speech. Provide a sample letter of invitation to one of the speakers.

Write the six précis so that the reader is drawn to make the connections among what the speakers say are critical.

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#### Ideas, hints and comments

 Take into account the diversity of activity encompassed by the terms biotechnology and engineering technologies.

• Think of the various opinion-makers and stakeholders in science, ethics, religion, public policy, economics, and special interest groups.

### Task parameters

• Task intensity: high

• Students may work individually or in pairs/triads by consent of all group members.

• Students must write their explanations (Box A) individually, under controlled conditions, with no time limit and without seeking clarification.

• Available grades: 4