

Diploma Programme subject in which this extended essay is registered: BIOLOGY

(For an extended essay in the area of languages, state the language and whether it is group 1 or group 2.)

Title of the extended essay: Do the plant extracts of *Allium sativum* (Garlic) and *Catharanthus roseus* (Vinca rosea) reduce the growth of *Bacillus subtilis* and *Escherichia coli* and do they show similar effect as antibiotics (Gentamicin)?

Candidate's declaration

If this declaration is not signed by the candidate the extended essay will not be assessed.

The extended essay I am submitting is my own work (apart from guidance allowed by the International Baccalaureate).

I have acknowledged each use of the words, graphics or ideas of another person, whether written, oral or visual.

I am aware that the word limit for all extended essays is 4000 words and that examiners are not required to read beyond this limit.

This is the final version of my extended essay.

Candidate's signature: _____

Date: 04.03.2009

Supervisor's report

The supervisor must complete the report below and then give the final version of the extended essay, with this cover attached, to the Diploma Programme coordinator. The supervisor must sign this report; otherwise the extended essay will not be assessed and may be returned to the school.

Name of supervisor (CAPITAL letters) _____

Comments

Please comment, as appropriate, on the candidate's performance, the context in which the candidate undertook the research for the extended essay, any difficulties encountered and how these were overcome (see page 13 of the extended essay guide). The concluding interview (viva voce) may provide useful information. These comments can help the examiner award a level for criterion K (holistic judgment). Do not comment on any adverse personal circumstances that may have affected the candidate. If the amount of time spent with the candidate was zero, you must explain this, in particular how it was then possible to authenticate the essay as the candidate's own work. You may attach an additional sheet if there is insufficient space here.

Avanthika took the initiative to do the pilot study to check the feasibility of the topic during the summer vacation and was ready with all the background work ahead of schedule.

Originally, she did all her experiment in the school lab, but was not able to achieve the level of sterility required to get accurate readings, as the school did not have a laminar airflow chamber. So the experiment was repeated in a nearby research lab which had a laminar air flow chamber!

Throughout the research, Avanthika has impressed me with her level of commitment, ability to work methodically and the maturity with which she has handled all situations.

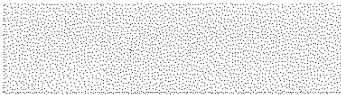
I have read the final version of the extended essay that will be submitted to the examiner.

To the best of my knowledge, the extended essay is the authentic work of the candidate.

I spent 9hrs hours with the candidate discussing the progress of the extended essay.

Supervisor's signature:

Date: 6th March '09
Minneapolis - 231/379



There is an enormous amount
of data collected from the
experiments. It is a very
thorough investigation and
well planned. Very little
problems have emerged.



Assessment form (for examiner use only)

Candidate session number	0	0	
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Assessment criteria	Achievement level		
	First examiner	maximum	Second examiner
A research question	2	2	2
B introduction	2	2	2
C investigation	4	4	4 3
D knowledge and understanding	4	4	4
E reasoned argument	4	4	4
F analysis and evaluation	3	4	4
G use of subject language	4	4	4
H conclusion	1	2	1
I formal presentation	4	4	4
J abstract	2	2	2
K holistic judgment	3	4	4
Total out of 36	33		34

Name of first examiner: _____
(CAPITAL letters)

Examiner number: _____

Name of second examiner: _____
(CAPITAL letters)

Examiner number: _____