American International University- Bangladesh (AIUB)
Faculty of Engineering (EEE)

Course Name:	Engineering Ethics	**Course Code:**	EEE 3107
Semester:	Summer 2018	**Sec:**	B
Faculty:	Dr. Md. Abu Bakar Siddiqui		

Case No:	1
Case Title:	Ethical Theory

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Submission Date:	**11-06-2018**	**Due Date:**	**11-06-2018**

Marking Rubrics (to be filled by Faculty)

Category	Proficient [4]	Good [3]	Acceptable [2]	Unacceptable [1]	Secured Marks
Explanation of issues	Issue/problem to be considered critically is stated clearly and described comprehensively, delivering relevant information necessary for full understanding.	Issue/problem to be considered critically is stated, described, and clarified so that understanding is not seriously impeded by omissions.	Issue/problem to be considered critically is stated, but description leaves some terms undefined, ambiguities unexplored, boundaries undetermined,	Issue/problem to be considered critically is stated without clarification or description.	
Influence of context and assumptions	Thoroughly (systematically and methodically) analyzes own and others' assumptions and carefully evaluates the relevance of contexts when presenting a position.	Identifies own and others' assumptions and several relevant contexts when presenting a position.	Questions some assumptions. Identifies several relevant contexts when presenting a position. May be more aware of others' assumptions than one's own (or vice versa).	Shows an emerging awareness of present assumptions (sometimes labels assertions as assumptions). Begins to identify some contexts when presenting a position.	
Student's position (perspective, thesis/ hypothesis)	Specific position (perspective, hypothesis) is imaginative, considering the complexities of an issue. Limits of position (perspective, hypothesis) are acknowledged. Others' points of view and assumptions are synthesized within position (perspective, hypothesis).	Specific position (perspective, thesis/hypothesis) considers the complexities of an issue. Others' points of view and assumptions are acknowledged within position (perspective, hypothesis).	Specific position (perspective, hypothesis) acknowledges different sides of an issue.	Specific position (perspective, hypothesis) is stated, but is simplistic and obvious.	
Innovative Thinking or uniqueness (of idea, claim, question etc.)	Extends a novel or unique idea, question, format, or product to create new knowledge or knowledge that crosses boundaries.	Creates a novel or unique idea, question, format, or product.	Experiments with creating a novel or unique idea, question, format, or product.	Reformulates a collection of available ideas.	
Conclusions and related outcomes (implications and consequences)	Conclusions and related outcomes (consequences and implications) are logical and reflect student's informed evaluation and ability to place evidence.	Conclusion is logically tied to a range of information, including opposing viewpoints; related outcomes (consequences and implications) are identified clearly.	Conclusion is logically tied to information (because information is chosen to fit the desired conclusion); some related outcomes (consequences and implications) are not clear.	Conclusion is inconsistently tied to some of the information discussed; related outcomes (consequences and implications) are oversimplified.	
Comments:			Total Marks (Out of 20):		

Answer:

Ethical issues raised by the Fort Collins situation:

In this case the official moto of Fort Collins is “renewal is a way of life”. They have proposed two different solutions one is AVA solar and another is Powertech Uranium. Both of them have some positive and negative sides. In AVA solar they developed a manufacturing process to make electricity-producing solar panels. This is very effective and typically given high marks in regard to green technology. So we can consider it as ethical. AVA solar system they used cadmium that raises concerns about cancer. It creates conflict with public health and safety issues. So we can consider this as unethical.

On the other hand Powertech Uranium proposes drilling for uranium, which can be used to create nuclear power. It is very efficient for reducing the emission of carbon. So it is ethical. It is not favor uranium mining and it is economically costly. In this case there are long-term, unresolved scientific and technological worries about extracting, processing, and disposing of uranium and that is unsolved.

In the case of Fort Collins main ethical issues is Powertech Uranium project. The reason is it does not favor uranium mining and there is also a long-term, unresolved scientific and technological worries about extracting, processing, and disposing of uranium.

Responsibilities of engineers to regarding this issues:

Engineers can research about the unsolved issues. If they find out solve for those problems then they can make any change in design. After those steps technical and other problems would be solved.

Dan Bihn’s emotional reaction:

For this case Dan Bihn should avoid his own emotional reaction. Because to build a nuclear power station the project cost will be very high which is the main emotional part. And this project is also a long term and unresolved scientific and technological worries about extracting, processing, and disposing of uranium. So Dan Bihn’s should ignore his emotion.

Deep down inside:

It mainly focus the Powertech Uranium proposes. As there is log term unsolved issues and also development is long time there is no future of the purposes. If the solutions of unsolved issues are not exist then the whole project will become stuck.

Douglas has in mind by appealing to ‘‘good science’’ in resolving the issues about uranium mining:

Here Douglas says ‘‘the science will either be good science or it won’t’’. Proper scientific solutions have a huge impact. Because if the solutions are strong then the outcome will become more practical and efficient. Science can solve any critical problems. Science have different techniques to solve a problem. So using good science this issues can be solved properly.

‘‘Good science’’ provide the answers:

The basic goal of good science is to develop a theory, paradigm, or model that provides a basis for research to understand the phenomena being studied. The model is useful only in so far as it helps to explain the observations. To this end, science develops by a formal procedure, usually termed "The Scientific Method"[1]. As there is unsolved issues and also extracting, processing, and disposing of uranium mining problems engineers can use good science technique to sole this problems. It will make it easier.

Reference:

[1] http://www.catchpenny.org/good.html