GE 449.3 (Section 01)

(Instructors: Richard Burton)

Midterm Examination

Tuesday, Oct 28, 2008

7:00 – 8:10 PM

Room 2C02, 2C88

Time Allowed: 70 Minutes

Materials allowed: Text, Notes, EGP Act.

No electronic devices allowed in the exam.

well done

$\frac{121.5}{136} = 89.5$

Instructions:

- **For choice questions, including True /False, circle the letter, number or word of the *best* choice. Blanks *may* require a single word, several words or a small phrase to complete, including prepositions or articles. (Note: there is *no penalty* for guessing.)**
- **Any unqualified references to 'Association', 'member' or 'council' are assumed to be of the Association of Professional Engineers and Geoscientists of Saskatchewan (APEGS).**
- **Any unqualified reference to "engineer(s)" can be assumed to mean Professional Engineer(s). Any reference to the "Act" can be assumed to mean the Engineering and Geoscience Professions Act**
- **Put your <u>name</u> and <u>student number</u> on the cover page; put *only* your <u>student number</u> on all remaining pages.**
- **There are 28 questions in total. Weighting for each question is indicated in the left margin (Total marks 143:)**
- **PLEASE KEEP ALL YOUR ANSWERS SHORT**

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Student Number: 10147742

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2 1) The three elements, honesty, reliability, competence, generally are integral parts of the definition of :

2 Trust

2 2) What kind of a license would a person with a P.Eng from Alberta apply for if she wanted to work on a project in Saskatchewan for 1 month?

2 temporary

2 3) The member of the Provincial Legislative Assembly who is responsible for the Engineering and Geoscience Professions Act is:

2 Minister of Highways

4 4) 4 APEGS is self regulated and self administered under the Act.

2 5) 2 APEGS is run by volunteers; if these volunteers use due diligence in all procedures, they are protected under the law.

2 6) "Divine Command Ethics" can be described as (choose the best):

a) Acts are morally right when they follow "the rules"
b) Moral obligations arise because people have rights.
2 c) Right actions are commanded by God; wrong actions are forbidden by God
d) During a declared war, right actions are those that follow orders from a higher command.

2 7) Releasing an unregulated toxic substance into the environment is an action which is (choose best one):

(a) illegal but ethical
(b) illegal but risky
2 (c) utilitarian
(d) legal but unethical

6 8) For professionals, "discretion" has two different meanings. Describe them.

2 a) Professional discretion : ensuring that safety has been ~~dea~~ considered and accounted for

2 b) Personal discretion : ensuring that they perform up to the code of ethics when viewed as a professional by the public.

2 9) Circle the statement(s) below which does (do) NOT describe laws:

(a) are generally applied without exception
2 (b) provide support when conflicting interests exist
(c) define a minimum standard of behaviour acceptable to society
(d) are necessary to achieve overall good where responsibility is broadly distributed.
(e) are generally broad enough so they can accommodate changes in technology

2 10) [True / False] If a member uses a design produced by another member without their permission, the grieved member is bound by the APEGS's Code of Ethics and must, once they become aware, report this conduct to the Association, even if they are the only wronged party in this situation and do not wish to report

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2 11) A person who refuses to carry out a task based on strong ethical concerns is a form of what kind of authority?

2 Morally Justified Authority

2 12) Refusing to work on a project based on a personal feeling that it is unethical is called the:

2 Right of Conscientious Refusal.

2 13) Being able to foresee future problems in a product is part of a concept called

X Due Diligence

2 14) A person who is a "company man" displays what kind of loyalty?

2 Identification loyalty (though thoroughly misplaced)

6 15) The public makes an assessment of trustworthiness based on information from a variety of sources that contribute to their experience and thus their knowledge. Name three main sources of this information:

1) Media

6

2) Personal Experience

3) Testimonials - Second hand experience (general impressions)

4 16) ***OMIT THIS QUESTION*** List four reasons why a "professional athlete" does not satisfy some of the generally accepted definition of a learned professional:

3 17) ***OMIT THIS QUESTION*** List three reasons why a "professional athlete" could satisfy some of the generally accepted definition of a learned professional:

(12)

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8 18) What is the difference between Ethics and Morals. Cite an example to illustrate this.

2 Ethics: Are the universal. "Agreed" upon values of a specific group or sub-group. (Application of morals.)

Morals: are Personal and general values

Example:

4/6 ~~the moral o~~ A moral is liberty, and the belief that all people should be free ~~a~~ is the Ethic (also acting in order to support this belief is essential).

8 19) Cite an example of a moral dilemma:

V6 You are tasked to design a Military communications system that would save the lives of your soldiers, but enable more of the ~~our~~ other sides soldiers to be Killed. (~~Rig~~ Universal Right to life).

8 For your example, identify the steps which should be used to resolve the dilemma and how these steps would resolve your example.

First the dilemma must be identified, then analysed, then finally an action must take place. The analysis may include deciding which ~~moral~~ is more important; Loyalty to country, or Universal Right to life. Once this key issue is decided, the matter is mostly resolved.

6 20) An engineer who has been an outspoken critic of your approach to a particular design is on a peer review committee deciding your promotion. What kind of conflict of interest is this?

Apparent

6 Justify your choice.

Though he is a critic, he is still an engineer and as such is bound by his Ethics to treat you fairly. As well, he may have merit in his criticisms; he may be trying to make you a better engineer, and will act in your best interests even though it may not appear that way to others.

4 21) According to Fledderman, professional "societies" can be operated according to two models. What are these models and what are the prime objectives of each?

1) Social Contract: ~~Protect~~ the safety and well-being of the public

4 2) Business Model: the most profit for the public

(b) Which model best describes APEGS?

Social Contract

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12 22) Given the following scenario, describe in a very brief form how individuals who subscribe to the four main types of ethical theories would approach the situation and why.

Robert is a third year engineering student who has been placed on probation for a low ~~grade~~ point average, even though he knows that he is doing the best he can. A friend offers to help him by sitting next to him and "sharing" his answers during the exam. Robert has never cheated on his exam before but this time he is desperate.

1. Utilitarianism: would not "share" answers, as this may put his friend in jeaporedy of getting expelled. Since both are at risk this way and only he is at risk without "sharing", the Utilitarian would not share

2. Duty Ethics: Would Not "share". a duty would be not to cheat ∴ he would not cheat.

3. Right Ethics: Would "share", as he ~~recognizes that his~~ friend is freely offering to help him ~~and~~ it is his right to pass the class.

4. Virtue Ethics: Would not "share", as "honesty" is considered a virtue in Western Culture (assuming western culture)

20 23) Using the roles of professional codes of ethics as a guide, in the first column, develop a code of ethics for an engineering student society. In the second column, show how each item reflects the roles

Code	Roles
• The student society must make the safety of their students their top priority.	• support
• The student society shall ~~provide means~~ support means of accessing educational material to support the learning of the members	• Support & education
• ~~The student society shall~~ Members of the society shall ~~be subject to~~ obey all university rules and academic constraints	• Deterrence & discipline
• Members shall assist in moral boosting activities (including charitable events)	• Contribute to public interest
• Members shall be entitled to vote on changes to the constitution governing the society.	• protect status quo
• Members shall ~~comply~~ adhere to the constitution of the society	• Deterrence & discipline

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8 24) Briefly discuss how your Code deals with ***two*** of the common limitations of codes of ethics.

Limitation	How it deals
1. Vagueness	It refers to specific documents that are always changing to reflect the new realities of the society. While still remaining encompassing it tries to provide direction for action.
2. Flexibility	Again the code refers to documents that can be changed as such it does not need to be changed itself. ~~as well~~

8

6 25) Oldenquist and Slowter examined numerous Engineering codes and found that are three topics that are common. How does your code contain or not contain them?

1. Protection of the public interest: encourages participation in charitable events
2. Protection of business interests: encourages members to vote on changes in policy
3. Protection of environment: No consideration given to this as it seems outside the scope of the society, though it may be included as charitable events.

2

15 26) Consider the following situation.

Several engineering students who have top grades and many scholarships are finding that they have fallen behind in many of their courses because of several college activities in which they visited several high schools in the north to publicize the College of Engineering . The College did not provide any special consideration on assignments as they student group did volunteer. The students have formed a study and work group to try to get caught up. The group members realize that copying of assignments is not a solution but that if they work together on assignments, with each person doing one or two problems and then explaining the approach to the other members of the group, then they should be able to get caught up.

Do an enquiry for this situation

Normative:
- Copying assignments vs doing it all yourself. - Pride in their work & grades
- Only doing some of the required work.
- Going on academic probation
- Losing scholarships

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Conceptual
- What constitutes copying?
- Does/will everyone understand the problems they do not "explicitly" "do"?
- Is there any recourse to the Professors of the courses to extend deadlines?
- Will the scholarships be lost if the grades fall below a certain threshold

Well done

Factual
- They are behind in their work.
- They have formed a study group.
- They do not want to copy.
- They have been volunteering on behalf of the College.

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4 27) A professional engineer attended a Professional Engineering Annual meeting representing his local region. He attended a social function where perhaps more than a few drinks were consumed by him. After the social function, the engineer tried to employ the services of a "lady of the evening" who turned out to be an undercover policewomen. The engineer was charged and convicted but was also brought up before the Association of Professional Engineers' Disciplinary Committee. What section of the Act could be used by the Association for disciplinary action (state what it says) and **why**, if the province was Saskatchewan?

4

Section 30.a) and 30.b) could be used as ~~asking~~ soliciting sex and consequently being charged, tried, and convicted is harmful to the standing of the profession, ~~as~~ This is because the public ~~will~~ generally sees Engineers as ethical people, and solicitation is generally considered not to be ethical.

10 28) A young entrepreneur graduated as an electrical engineer from the University of Saskatchewan, College of Engineering. During his undergraduate years, he has worked part time during the regular terms and full time in the summers at a garage station where he has learnt to maintain and fix vehicles. He has also played around with engine controllers and transmission systems. During that time, he developed a new computer controller which would improve the efficiency of the engine while reducing harmful emissions.

After graduation, he worked in industry for one year and decided to start up a new company called Efficient Engineer Controls (EEC) with some of the technicians at the garage. The company is set up to do consulting and engineering design as well as retrofit older vehicles with this new controller.

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A complaint has been made to the Association of Professional Engineers and Geoscientists of Saskatchewan about the former student and the company. Using the Act as a guide, discuss upon what basis could a complaint be made?

In section ~~26.3~~ 26.3 of the Act the word "Engineer" is protected. This means it can only be used if ~~a~~ a professional engineer is part of the Company. Since Efficient Engineer Controls contains this word, it could be considered in violation of the act. Since the new grad has not logged the required 4 years under a P. Eng supervisor then the new grad cannot keep the "Engineer" in the company title without written authorization from the association.

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