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# GE 449.3 (Sections 01)

(Instructors: Richard Burton)

## Midterm Examination

Thursday, Oct 25, 2007

6:30 – 7:30 PM

Room 1B71

Time Allowed: 60 Minutes

Materials allowed: Text, Notes, EGP Act.

No electronic devices allowed in the exam.

### 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 (APEGGS).
- 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 name and student number on the cover page; put *only* your student number on all remaining pages.
- There are 27 questions in total. Weighting for each question is indicated in the left margin (Total marks: 140)

Name: TAO, STEPHEN

Student Number: 10327156

119.5  
140

85%

well done

Name: TAO, STEPHEN

24 1)

Examine the "Terms" in the left hand column. Chose **one** "Phrase" in the phrase column which **best** describes the Term in the left hand column. For that best phrase, place the letter (a, b, c etc) in the "Answer" column.

(22)

Term	Answer	Phrase	Answer
Normative inquiries	O X	Partial ignorance, uncertain outcomes, knowledge of the past and monitoring	a
Moral autonomy	b	The advisability of undertaking a project	b
risk	k	Two or more obligations, duties, rights goods, or ideals come into conflicts with one another	c
Virtues	l	Right conduct is regarded as whatever directly benefits oneself	d
Engineering as experiments	a	Requires sophisticated knowledge, group commitment to public good and self regulation	e
Pre-conventional level (Kohlberg)	d	A combination of honesty and reliability	f
Professional occupations	e	Regards moral rules as primary	g
Utilitarianism	n	Moral conduct and principles of action are people's own	h
Risk-benefit analysis	b	Unclear to parties which moral consideration or principles apply to their situation	i
Moral dilemmas	c	Clarifying the meaning of concepts, principles and issues in engineering ethics	j
Ethics	p	The potential that something unwanted and harmful may occur	k
Trustworthiness	f	Desirable features of character	l
		Seek to identify values that that should guide individuals and groups	m
		Most good for most people	n
		Knowledge of material and sufficient information to make informed decisions	o
		Set or moral principles which guide behavior	p
		Engaging in a potentially dangerous sport	q

Name: TAO, STEPHEN

2 ~~2)~~ The member of the Provincial Legislative Assembly who is responsible for the Engineering and Geoscience Professions Act is the Minister of HIGHWAYS

2 ~~3)~~ APEGS is self REGULATED and self ADMINISTERED under the Act.

3 ~~4)~~ Three types of licenses that can be issued under the Act are:

- 3
- 1) TEMPORARY
  - 2) RESTRICTED
  - 3) ANNUAL

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

4 ~~6)~~ List the four **main** types of ethical theories

- 4
- 1) UTILITARIANISM
  - 2) VIRTUE ETHICS
  - 3) RIGHTS ETHICS
  - 4) DUTY ETHICS

3 ~~7)~~ List several reasons why a "professional athlete" does not satisfy some of the generally accepted definition of a learned professional:

2

Oxford: Vocation or calling especially one that involves some branch of advanced learning or science.  
 Encarta: someone who requires extensive training (learned professional).

\* Professional athletes are not required to undertake advanced learning or science and are not necessarily professional.

3 ~~8)~~ List several reasons why a "professional athlete" could satisfy some of the generally accepted definition of a learned professional:

1/2

Encarta: professional is someone who is engaged in an occupation as a job rather than a hobby.

\* Professional athletes are athletes by trade and not necessarily by hobby & therefore could be considered professionals.

3 ~~9)~~ 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:

- X
- > HONESTY
  - > BELIABILITY
  - > COMPETENCE

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Name: TAD, STEPHEN

2 10) Locke, Kant and Mill are best described as engineers/moralists/philosophers/ethicists (choose one) and did not base their moral thinking on REAL WORLD SITUATIONS.

2 11) "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.

12 12) A plant that is known to manufacture hazardous products is built in a third world country which is very poor and has a high unemployment rate. This plant has a history of safety issues. Use the four main ethical theories to analyze this situation. Use bullets and short statements

1 1/2

UTILITARIANISM:  
 - THE BEST GOOD FOR THE MOST PEOPLE REQUIRES THAT SOME PLANTS STAY OPEN IN ORDER TO EMPLOY THE POOR RESIDENTS OF THE COUNTRY. *But at what expense!*

2

RIGHTS ETHICS:  
 - CLOSE DOWN THE PLANTS X  
 - ALL PEOPLE HAVE THE RIGHT TO A SAFE WORKPLACE  
 - PEOPLE HAVE RIGHT TO NOT BE EXPOSED TO HAZARDOUS ENVIRONMENTS

3

DEONTOLOGICAL ETHICS:  
 - UPGRADE THE PLANT. ✓  
 - IT IS YOUR DUTY TO ENFORCE SAFETY OF THE PUBLIC AS AN ENGINEER.

2 1/2

VIRTUE ETHICS:  
 - HERE, IT DEPENDS ON YOUR INDIVIDUAL VIRTUES/VALUES  
 - IF YOU ARE VIRTUOUS, RESPONSIBLE AND HONEST, YOU WILL UPGRADE THE PLANT AND MAKE IT SAFE

9  
+4

2 13) DUALISMS are concerned with the judgement of the goodness or badness of human action and behavior

2 14) 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

4 15) For professionals, "discretion" has two different meanings. Describe them.

2 > CLIENT CONFIDENTIALITY  
 > MAKE UP FAKE ANSWERS FOR EXAMS... ACTUALLY, THIS IS THE ONLY ONE I HAVE TO CONCERN ABOUT

1

*actually the "thought" is correct!*

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3 16) A code of ethics is (choose which is most appropriate).

- (a) recipe for ethical behaviour
- 1 (b) framework for ethical judgement
- (c) starting point for ethical decision making,
- (d) commitment to ethical conduct,
- (e) substitute for sound judgment
- (f) legal document

4 17) Circle the statement(s) below which does (do) NOT describe laws:

- (a) are generally applied without exception
- X (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.
- 2 (e) are generally broad enough so they can accommodate changes in technology

2 18) Which of the following statements is (are) incorrect?

- a) Ethics is an activity and an area of inquiry
- X (b) Ethics makes a contrast between moral questions and questions of legal and political and artistic nature
- 1 c) Ethics refers to currently accepted codes and standards of conduct endorsed by various groups of engineers and engineering societies
- (d) Ethics is a study of solely individual morality and ideal
- e) None of the above

2 19) [ 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

4 20) Professional "societies" can be operated according to either a "social contract" model or a "business" model (Fleddermann).

(a) List the prime objective of each:

4 "social contract": ENSURE SAFETY OF THE PUBLIC  
"business model": INSURE PROFIT OF THE PUBLIC.

(b) Which model best describes APEGS? SOCIAL CONTRACT

3 21) The three main attributes of a professional that influence the public's level of trust are"

3 1) HONESTY 2) RELIABILITY 3) COMPETENCE

8 22) According to Fleddermann, there are four criteria to be met to ensure a safe design. List them.

- 8 1) MINIMUM - COMPLY W/ ALL APPLICABLE LAWS & REGULATIONS
- 2) CONFORM TO ACCEPTED ENGINEERING PRACTICE.
- 3) USE CREATIVITY TO FORESEE ALL REASONABLE CIRCUMSTANCES & AS MANY POTENTIAL CIRCUMSTANCES AS POSSIBLE.
- 4) TESTING OF THE PRODUCT FOR SPEC & SAFETY

2 23) Refusing to work on a project based on a personal feeling that it is unethical is called the right of MORAL AUTONOMY

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12 24) For the Citicorps case study, do an enquiry of the ethical issues from the perspective of the engineers who changed LeMessurier's specification of welds to bolts.

CONSIDERATIONS	FACTUALS	NORMATIVE
1) WHO IS IN CHARGE? (ME OR LE MESSURIER?)	1) BOLTS REPLACED WELDS.	1) IS DESIGN MODIFICATIONS AN ACCEPTABLE PRACTICE?
2) DOES HE HAVE THE RIGHT TO MAKE ABOVE THE MODIFICATIONS?	2) THE DESIGN WAS NOT/ORIGINALLY MINE.	2) IS IT ACCEPTABLE TO REPLACE WELDS WITH BOLTS?
	3) I DID NOT INFORM LE MESSURIER	
	4) BOLTS WERE INSUFFICIENT.	

Handwritten notes: "extended work!"

13

20 25) Using the roles of professional codes of ethics as a guide, in the first column, develop a code of ethics for owners of pets in the City of Saskatoon. In the second column, show how each item reflects the roles

2  
3  
3  
3  
5

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Code	Roles
1) ENSURE THE SAFETY OF THE PUBLIC, MY ANIMAL, AND OTHER ANIMALS.	INSPIRATION & GUIDANCE - MAKES CLEAR THAT SAFETY IS IMPORTANT.
2) MAINTAIN THE ENVIRONMENT IN WHICH MY ANIMAL INTERACTS IN.	- CONTRIBUTING TO PUBLIC IMAGE (BASICALLY, PICK UP ALL POO SO PEOPLE AREN'T UPSET AT PET OWNERS).
3) BE RESPONSIBLE FOR ALL ACTIONS OF YOUR ANIMAL AND ALL ANIMALS.	- EDUCATION & MUTUAL UNDERSTANDING (WE ARE ALL RESPONSIBLE FOR THIS AREA (PARK) SO ENSURE IT IS CLEAN, EVEN IF THE MESS WAS MADE BY ANOTHER DOG.)
4) SHOULD I BE UNABLE TO FULFILL THIS CODE OF ETHICS, I WILL SURRENDER (OR GO TO MY ANIMAL.	Deterrence & Discipline - People will give up their pets if unable to look after them.

THIS MEANS IF YOU SEE ANIMAL ABUSE, YOU CANNOT IGNORE IT!

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Name: \_\_\_\_\_

4 26) Briefly discuss how your Code deals with **one** of the common limitations of codes of ethics.

Limitation	How it deals
VAGUENESS ✓	MY CODE DEALS WITH VAGUENESS BY STATING SIMPLY TO "ENSURE SAFETY OF THE SURROUNDING PUBLIC" WHICH WILL ALMOST ALWAYS BE CORRECTLY INTERPRETED.

6 27) 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 HOLD PARAMOUNT SAFETY OF THE PUBLIC. (PUBLIC INTEREST).  
 • YES, THIS IS IN MY CODE.
- ② QUALITIES OF TRUTH, HONESTY & FAIRNESS  
 • BY BEING RESPONSIBLE FOR MY ANIMAL'S ACTIONS, I AM EXHIBITING TRUTH HONESTY & FAIRNESS TO OTHERS.  
 IS PAYING FOR DAMAGES CAUSED BY DOG.
- ③ CONDUCT THEMSELVES WITH FAIRNESS, COURTESY AND GOOD FAITH TOWARDS CLIENTS, COLLEAGUES  
 • THIS IS SLIGHTLY MODIFIED TO CONDUCT THEMSELVES WITH FAIRNESS TO THE PUBLIC, THEIR ANIMAL, AND ALL ANIMALS.

(10)

DR. STEPHEN

Name: \_\_\_\_\_