

UNIVERSITY OF TORONTO  
FACULTY OF APPLIED SCIENCE AND ENGINEERING  
FINAL EXAMINATION, APRIL 2001  
APS 304 – PREVENTIVE ENGINEERING AND SOCIAL DEVELOPMENT  
EXAM TYPE: No aids permitted.  
Examiner - W.H. Vanderburg

Instructions

You must answer four questions, all of equal value. Please answer Questions 1 and 2 in a first examination booklet, and questions 3 and 4 or 5 in a second examination booklet.

PART A:

1. Explain how and why you agree or disagree with the following statement: When engineers design products, processes or systems, they in effect determine for the greater part the chains of activities that the economy of their society will use to obtain the required matter and energy from the biosphere and the way this matter and energy will be returned to the biosphere in altered form. Hence, engineering design includes deciding on how our technological creations are connected to the biosphere as well as to many human activities that help to constitute the way of life of a society.
2. List and briefly explain five sources of increased efficiency that result from the technical division of labour. Also, list and explain five inefficiencies that result from this division of labour.
3. List and explain the three categories of forces that separate the inhabitants of cities.

PART B: You must answer either question 4 or question 5.

4. Explain consumption and how it underwent a major transition during the industrialization of the industrially-advanced nations. What is the relationship between consumption and human needs? Include in your discussion the influence of the revised sequence and that of technique having become our primary life-milieu. Why are preventive approaches for the engineering, management and regulation of modern technology likely to have little impact on consumption?
5. When the activities of a society are increasingly organized and reorganized on the basis of technique and, to a much lesser extent, on the basis of culture, explain:
  - a) How the integrality of activities is often weakened.
  - b) How the compatibility between the reorganized activities and the remainder of the social fabric and local ecosystems is generally weakened.
  - c) How the self-regulating character of reorganized activities is decisively weakened so that their regulation must be taken care of externally. What influence does this have on the organization of society and on the lives of its members?
  - d) Explain how the evolution of a way of life based on technique leads to desymbolization. What are the implications for the ability of a society to sustain individual and collective human life?

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FACULTY OF APPLIED SCIENCE AND ENGINEERING

FINAL EXAMINATION, APRIL 2001

GROUP "A"

FACULTY WIDE PROGRAM (APS)

APS432S – ENTREPRENEURSHIP AND BUSINESS MANAGEMENT

Examiners: Professors Joseph C. Paradi and Larry Fox

*CANDIDATES MAY BRING TO THE EXAMINATION AND USE ANY BOOKS,  
NOTES OR OTHER PRINTED OR WRITTEN MATERIAL*

There are **FOUR SECTIONS** in this examination, Part A (Marketing - 3 Questions), Part B (Legal - 3 Questions), Part C (Human Resources - 3 Questions) and Part E (General Business - 4 Questions). **You must use different answer books for each section** as they will be marked separately by their respective instructors. There are 13 questions in all. You must try and answer all questions. In a sense, you should treat the Parts as separate examinations.

Please start each question on a separate page. The questions are designed to test your **understanding** of the principles taught not your ability to turn out volumes of prose. There are many questions but they can all be answered in **point form or in one or two sentences**, as applicable, and therefore do not require verbose text.

*Please note: This examination covers a lot of material, so allocate your time to make sure that you can do everything in the 2 and 1/2 hours allotted.*

**PART A - MARKETING and SALES SECTION – USE EXAM BOOK “A”**

Marks

- (2) 1a. The Marketing Plan is like the on-going Business Plan of the firm. Why is it so important? How does it relate to the strategy of the firm?
- (8) 1b. What are the key parts of a Marketing Plan? Explain briefly four parts and how they inter-relate.
- (3) 2a. Ethical behaviour is very important in all aspects of business. What elements of ethical behaviour are most important in the sales and marketing field?
- (4) 2b. The “Request” process is typically used by major buyers when making major purchases. What are the typical steps in the process and why do buyers use it? Sales people typically don’t like to have to sell through it. Why? How can sales people use the process to their advantage?
- (3) 3a. Charles Salameh of Bell Canada described the major “changing times” in business today. How is the Internet impacting traditional modes of doing business? If you were the main market manager at Bell Canada, would you combat these changes and if so, how?
- (3) 3b. Sharon Rainey of Fleishman – Hillard discussed the part that public relations plays in the marketing mix. How do communications or public relations help your overall marketing efforts?
- (2) 3c. Martin Redfern of Ipsos - Reid talked about market research. Why would you, as your firm’s chief marketing manager, do market research?

**PART B – LEGAL SECTION - USE EXAM BOOK “B” !!**

Marks

- (4) 1. **Laws and Government Regulation** - Choose any four (4) of the following and briefly explain why it is or is not a form of monopoly in Canada:
- (i) Patent
  - (ii) Engineering
  - (iii) egg producers
  - (iv) potato farmers
  - (v) cable television
  - (vi) auto manufacturers
  - (vii) banks
2. **Corporations**
- (2) (a) What is a corporation?
- (3) (b) What is the role of each of the following in a corporation:
- (i) board of directors
  - (ii) officers (President, Vice-President, Secretary)
  - (iii) shareholder
- and explain in what way or to what extent any of the persons described above is or could be responsible for any of the liabilities of the corporation.
- (3) (c) Define or explain the following:
- (i) ostensible authority
  - (ii) corporate opportunity
  - (iii) conflict of interest
- (4) (d) Explain or define any two (2) of the following terms:
- (i) prospectus
  - (ii) insider trading
  - (iii) continuous disclosure
3. **Contracts**
- (9) Two years ago when Ace Developments was planning the construction of a new 82-storey office building in downtown Toronto your company obtained the contract for the manufacture and installation of the heating and air-conditioning unit (including control units for each floor but excluding the duct work) prior to the occupancy date of June 15, 2001. Your company has been in business for 30 years manufacturing heating and air-conditioning systems for small factories, homes, strip-shopping plazas, free-standing restaurants and liquor stores, but this is the first installation in a high-rise office building ever undertaken by your company. Your company ordered standard control panels from ABC Electronics Inc., the same company that has provided control units to you for the last 20 years, without telling ABC about the contract for the new office building because you were afraid they might increase their prices. With the occupancy date less than 60 days away, ABC informed you that it is having production problems and the control units will not be ready to be delivered for at least 6 months. When you then informed Ace Developments they reminded you that your contract requires the heating and air-conditioning unit including the control units to be installed and fully operational before the occupancy date of June 15, 2001, adding that the building is fully leased (82 floors

with 50,000 sq. ft. on each floor rented at an average rent of \$25.00 per sq. ft. per year). He further stated that your company will be held fully liable for all lost rent and other expenses if occupancy of the office building is delayed.

- (a) Describe the principle that applies to compensate an innocent party for breach of contract.
- (b) Is your company liable to compensate Ace Developments if occupancy is delayed because of your failure to install the heating and air-conditioning unit on time?
- (c) Can Ace Developments hold you personally liable for any damages?
- (d) What is the amount of your company's liability to Ace Developments if occupancy is delayed 4 months?
- (e) Can you claim the same damages from ABC Electronics?
- (f) Would it matter if you had told ABC Electronics about your contract with Ace Developments, including the occupancy date, before placing the order for control units?

**PART C - HUMAN RESOURCES SECTION - USE EXAM BOOK "C" !!**

- (6) 1a. What are the three (3) stages involved in the structured interview process?
- (4) 1b. What are the four (4) key areas that should be covered (explored) by the interviewer of a prospective candidate?
- (3) 2a. List three (3) reasons for the importance of establishing objectives for employees
- (3) 2b. What are the three (3) characteristics of well-written objectives?
- (3) 3a. What are the three benefits that are achieved through an effective new employee orientation program?
- (3) 3b. Briefly (1-2 sentences) describe what is meant by "parallel" or "dual" career paths.
- (3) 3c. Why is it important for companies to establish a mentoring initiative in the workplace?

**PART E - GENERAL BUSINESS SECTION - USE EXAM BOOK "E" !!**

Marks

- (10) 1. All successful business people keep informed about their own industry's progress and their company's fit into the environment. Just as important, however, is the general awareness of what is going on in the economy, stock markets, value of the dollar, new legislation, take-overs, mergers, business failures, etc. It is a requirement for every student to read the business press every day as part of the course. The following questions refer to events reported in the press during the approximately past four months.
- i) Who is considered the "most powerful person" who can effect the world's economy in the short term? What agency does this person head?
  - ii) The Canadian \$ continues to fall against the American \$ over the past four years. Why has it and has there been a benefit?
  - iii) There has been a major collapse in the value of all types of "technology" stocks on a worldwide basis. Why?
  - iv) It is generally considered that we are in a "bear" market. What does this mean? What is the generally accepted indication that the economy is in "recession"?
  - v) There has been a shift in investor's views regarding "growth" stocks and "value" stocks. What do these terms mean?
- (8) 2. Business Financing is one of the most important activities that you must undertake in any business, large or small. Answer the following in a concise manner.
- i) Particularly in a small business, cash is "king". Why? Why is "cashflow" critical? How does a business get cash? Why is a "sensitivity analysis" important?
  - ii) How do you sell your need for cash to a financier in a start-up business? What tools do you use? Name three key things to do and three to avoid.
  - iii) What are three key financial sources for start-ups?
  - iv) What do lenders look for in you as a client and how will they assess you?
- (3) 3. While insurance is a key element, risk management is more than just getting insurance.
- i) Morten Friis of the RBC Group indicated that risk management was everyone's job. How could the sales department personnel mitigate risk? How could the manufacturing department's employees minimize risk?
  - ii) Business is about taking and managing risk. What is bad risk?
- (4) 4. Research and development is key to a firm's on-going health.
- i) What role do engineers play in research and development and what value do they add?
  - ii) Name two facts that are changing research and development activities as they relate to product life.