NATIONAL EXAMS DECEMBER 2013

98-IND-B4, Design of Information Systems

3 hours duration

NOTES:

1. If doubt exists as to the interpretation of any question, the candidate is urged to submit with the answer paper a clear statement of any assumptions made.

2. No calculator permitted. This is a Closed-Book exam.

3. The exam is comprised of four parts. Answer any 20 from Part A (20 x 2 each = 40 marks), any 2 from each of Parts B & C (2 x 11 each = 22 marks per section), and any 1 from Part D (1 x 16 = 16 marks). Only the first answers, as they appear in your answer book, will be marked. Clearly show, at the start of each answer, the section/number of each question you are answering.

4. Parts B, C & D can be answered in essay or essay plus point form format. Diagrams can be used, if appropriate. In all cases, clarity and organization of the answer is important.

5. Use the Examination Booklet(s) provided for your answers.

Marking Scheme
Part A: 20 x 2 per question =   40
Part B: 2 x 11 per question =   22
Part C: 2 x 11 per question =   22
Part D: 1 x 22 per question =   16
                                100

PART A: Select **twenty** (20) terms from the following list and briefly explain them in a sentence or two. Limit your answer to no more than 50 words. Simply expanding an acronym correctly is insufficient for full marks.

(20 x 2 marks each = 40 marks)

Access Control	ERM
Agile Development	Hashing
Analytics	Information Rights
Authentication	IT Governance
Behaviour Monitoring	Java Stripping
Big Data	Key
Bottom-up Estimating	Knowledge Management
Business Driver	Malware
BYOD	Mashups
Capital Budgeting	MIS
Change Control	Network Resilience
Cloud Computing	Normalization
Conversion	Portfolio analysis
Cookie	Privacy Policy
CRM	PKI
Cyber Security	RFQ
Data Warehousing	Sandbox
Database Conceptual Schema	Search Costs
DoS Attack	Sociotechnical design
Entity	Spoofing

PART B: Select **two** (2) questions from the following list and answer them. You should provide a full page (or more) of explanation for each question.

(2 x 11 marks each = 22 marks)

B1. Discuss the major characteristics of cloud computing, the major types of service (infrastructure, platform, software), and kinds of clouds (public, private, hybrid).

B2. Contemporary software platform trends include: Linux and open-source s/w, s/w for the web (java, html, html5), web services and SOA, s/w outsourcing and cloud services, mashups and apps. Consider 3 of these, explain them, and identify how they are impacting information system development.

B3. Discuss and explain the important capabilities of DBMSs, including data definition, data dictionary, and a data manipulation language.

B4. Identify the major h/w and s/w components of a typical computer network. Explain the function of each component.

B5. Identify common internal and external threats to an organization's information systems. Explain how an organization can effectively deal with each threat you identify.

PART C: Select **two** (2) questions from the following list and answer them. You should provide a full page (or more) of explanation for each question.

(2 x 11 marks each = 22 marks)

C1. Consider six strategic business objectives: operational excellence; new products, services, and business models; customer and supplier intimacy; improved decision making; competitive advantage; and survival. Choose three (3) of these and discuss how firms can use information systems to support the strategy.

C2. Discuss how information systems impact organizations and firms. Consider economic impacts as well as organizational and behavioural impacts.

C3. Consider the business value chain model of support activities (Admin & Management, HR, Technology, Procurement) and primary activities (Inbound/Outbound Logistics, Operations, Sales & Marketing, Service). Briefly describe how information systems can support these activities.

C4. From an individual/personal perspective, discuss how the five moral dimensions of information systems (information rights; property rights; accountability, liability, and control; system quality; and the quality of life) can affect users.

C5. The Total Cost of Ownership (TCO) for an information system goes beyond just hardware and software costs. Identify and discuss the major components that usually go into TCO.

PART D: Answer **one** (1) question from the following. You should provide more than a full page of explanation.

(16 marks)

D1. Identify and explain all major steps in the information system development process. How would the process differ between a large project and a small project (say several person years of effort versus no more than a few person months of effort)?

D2. Why do large information system projects have so many problems (come in late, are over budget, or even fail)? How do project size and scope, organizational issues, politics, and other factors affect such projects? What can be done to minimize the risk of IS development failure? How can risk analysis be used effectively in the IS development process?