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
Agile Development
Analytics
Authentication
Behaviour Monitoring
Big Data
Bottom-up Estimating
Business Driver
BYOD
Capital Budgeting
Change Control
Cloud Computing
Conversion
Cookie
CRM
Cyber Security
Data Warehousing
Database Conceptual Schema
DoS Attack
Entity

ERM
Hashing
Information Rights
IT Governance
Java Stripping
Key
Knowledge Management
Malware
Mashups
MIS
Network Resilience
Normalization
Portfolio analysis
Privacy Policy
PKI
RFQ
Sandbox
Search Costs
Sociotechnical design
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?