

NATIONAL EXAMS MAY 2011

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 (15 x 2 each = 30 marks), and any 2 from Parts B, C & D (2 x 10 each = 20 marks per section). 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.

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)

4G Networks	Feasibility study
Acceptable Use Policy	GDSS
Agile Development	HTTP
Authentication	Information Rights
Balanced Scorecard Method	IT Governance
Bluetooth	KMS
Bullwhip Effect	LMS
Case-based Reasoning	Malware
Clickstream Tracking	Normalization
Cycle Time	P3P
Data Administration	Pilot Study
DoS Attack	Portfolio analysis
Drill Down	Referential Integrity
ERM	Scoring Model
End-user Development	SLA
Entity	Sociotechnical design

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 10 marks each = 20 marks)

- B1. Discuss the major IT infrastructure components (hardware, software, data, networks, services). Identify major divisions within each of these components.
- B2. Discuss the principles underlying a DBMS. How are the core capabilities (data definition, data dictionary, and data query/manipulation typically implemented? Illustrate, where appropriate, by referring to a popular DBMS.
- B3. Discuss the major technologies and standards for wireless networking, communication, and Internet access.
- B4. Discuss technologies and tools for protecting information resources. Your answer should consider five of the following: controls; firewalls, intrusion detection systems, and antivirus software; securing wireless networks; encryption and public key infrastructure; ensuring system availability.
- B5. Discuss non-technology approaches management can use to improve security and control of an organization's IS. Your answer should consider policies, controls, best practices, risk assessment, audits, and other important means.

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 10 marks each = 20 marks)

- C1. Discuss various tools and technologies that facilitate and support collaboration and teamwork. You should consider e-mail, instant messaging, social networking, wikis, and internet-based collaboration environments.
- C2. Discuss the principal issues in managing hardware and software technology. Be sure to consider capacity planning and scalability, total cost of ownership, and use of external service providers.
- C3. Compare/contrast these alternatives in-house systems development approaches: traditional systems development lifecycle, prototyping, and end-user development. What are the strengths and weaknesses of each?
- C4. Discuss how IS/IT departments can manage project risk and system-related change. Consider implementation and change management, controlling risk factors, and overcoming potential user resistance.
- C5. Discuss the following major ethical, social, and political issues raised by information systems: information rights and obligations, property rights and obligations, accountability and control, system quality, and quality of life.

PART D: 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 10 marks each = 20 marks)

- D1. Discuss four of the following six business objectives, and their reliance on information systems: operational excellence, new products/services/business models, customer and supplier intimacy, improved decision making, competitive advantage, and survival.
- D2. Using the Porter Competitive Forces model, discuss how information systems can be used by a firm to obtain competitive advantage.
- D3. Discuss CRM Systems: what they are, the information technology typically required, and how they support sales, marketing and customer service. If possible, provide examples from a popular CRM system.
- D4. Discuss the special features of e-commerce, digital markets, and digital goods that distinguish these from traditional commerce, markets and goods. In your discussion, be sure to consider information asymmetry, marginal cost of products/services, and disintermediation. Provide examples, where possible.
- D5. Discuss how information systems can improve decision making and manage knowledge within an organization. Consider decision support, executive support, group support, and expert systems.