

NATIONAL EXAMS DECEMBER 2009

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 15 from Part A (15 x 2 each = 30 marks), any 3 from Part B, (3 x 10 each = 30 marks), and any 2 from Parts 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 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: 15 x 2 per question =	30
Part B: 3 x 10 per question =	30
Part C: 2 x 10 per question =	20
Part D: 2 x 10 per question =	<u>20</u>
	100

PART A: Select fifteen (15) terms from the following list and briefly explain them. Limit your answer to no more than 50 words. Simply expanding an acronym is insufficient.
(15 x 2 marks each = 30 marks)

3G Networks

Information Rights

Authentication

Java

Bandwidth

Malware

Blog

MP3

Business Continuity Planning

Network Economics

BPR

Object-oriented Development

Change Management

P3P

Computer Forensics

Portfolio Analysis

Data Administration

RAD

Distributed Processing

RFP

E-Government

SSL

EDI

TCO

Entity

URL

FTP

Value Chain Model

HTTP

VoIP

PART B: Select **three** (3) questions from the following list and answer them. You should provide a full page of explanation for each question.

(3 x 10 marks each = 30 marks)

- B1. Discuss major hardware platform trends. Select at least three (3) of the following: Integration of computing & telecommunications platforms, grid computing, on-demand/utility computing, autonomic computing, edge computing, virtualization & multicore processors.
- B2. Compare/contrast Online Analytical Processing and Data Mining, as they relate to Business Intelligence.
- B3. Describe appropriate practices to manage an organization's data resources, ensuring the data is accurate, reliable, and readily available. Your answer should include consideration of policies, data administration, data governance, and database administration.
- B4. Describe key digital networking technologies, including client/server computing, packet switching, TCP/IP, and connectivity
- B5. Discuss important technologies and tools that support communication and e-Business (such as, but not limited to, e-mail, groupware, internet telephony, virtual private networks)
- B6. Describe the most important tools and technologies for safeguarding information resources (such as fault-tolerant computer systems, firewalls, passwords and others).
- B7. Compare/contrast the features of a simple home or small business network and the network of a large organization.

PART C: Select **two** (2) questions from the following list and answer them. You should provide a full page of explanation for each question. (2 x 10 marks each = 20 marks)

- C1. Discuss each of the four kinds of organizational change that can be promoted with information technology (automation, rationalization, BPR, and paradigm shift).
- C2. Describe the most important aspects of core activities in the system development process (systems design, systems analysis, testing, maintenance, programming, conversion, production). Your answer should place these activities into the correct order.
- C3. Describe and compare/contrast any two of the following alternative methods for developing information systems: systems life cycle, prototyping, application software packages, end-user development. Your answer should consider strengths and weaknesses of the method, and where it is best used.
- C4. Compare/contrast object-oriented and traditional structured approaches for modelling and designing systems. What are the strengths and weaknesses of each approach?
- C5. Discuss some of the important ethical, social, and political issues that are raised by information systems. Describe important relationships among these issues.

PART D: Select two (2) questions from the following list and answer them. You should provide a full page of explanation for each question. (2 x 10 marks each = 20 marks)

- D1. Discuss the challenges of managing IT infrastructure (dealing with infrastructure change, agreeing on infrastructure management and governance, making wise infrastructure investments), and possible management solutions to these challenges.
- D2. Why is IT project management important? Discuss various aspects of IT project risk, and what should be done to manage/control this risk.
- D3. Discuss common approaches to establishing the business value of information systems.
- D4. Identify and discuss the challenges posed by global information systems, and management solutions to these challenges.
- D5. Supply Chain Management is less about managing the physical movement of goods and more about managing information. Discuss the implications of this statement, showing how Information and Communication Technology supports SCM.