



UNIVERSITY OF COLOMBO, SRI LANKA

UNIVERSITY OF COLOMBO SCHOOL OF COMPUTING
(Successor to the Institute of Computer Technology (ICT))
DEGREE OF BACHELOR OF INFORMATION TECHNOLOGY (EXTERNAL)

Academic Year 2006/2007 – 3rd Year Examination – Semester 6

IT6302: E-Commerce

28th August, 2007
(THREE HOURS)

To be completed by the candidate

BIT Examination Index No:

Important Instructions:

- The duration of the paper is **3 (Three) hours**.
- The medium of instruction and questions is English.
- This paper has **4 questions** and **15 pages**.
- **Answer all 4 questions.** All questions carry **equal marks**.
- **Write your answers** in English using the space provided **in this question paper**.
- Do not tear off any part of this answer book.
- Under no circumstances may this book, used or unused, be removed from the Examination Hall by a candidate.
- Note that questions appear on both sides of the paper.
If a page is not printed, please inform the supervisor immediately.

Questions Answered

Indicate by a cross (x), (e.g.

X

) the numbers of the questions answered.

To be completed by the candidate by marking a cross (x).	1	2	3	4
To be completed by the examiners:				

- 1) (a) Fill each blank using the most suitable word/phrase from the following list.

(1*9=09 marks)

- | | |
|----------------------------------|-----------------------------|
| (a) E-procurement | (f) Decision Support System |
| (b) Computer-aided Manufacturing | (g) Knowledge-based System |
| (c) Enterprise dashboard | (h) PayPal |
| (d) Computer-aided Design | (i) eBay |
| (e) Online Analytical Processing | (j) Data Warehouse |

- (i) allows payments and money transfers to be made through the Internet.
- (ii) Organizations transfer their historical data about business transactions to a special repository called
- (iii) A/An is a computerized system for helping make decisions.
- (iv) is a computer-based software tool that assists in the manufacture of product components.
- (v) is an online auction and shopping website where people and businesses sell goods and services worldwide.
- (vi) A/An contains some of the subject-specific knowledge and the knowledge and analytical skills of experts.
- (vii) is an approach to quickly provide answers to analytical queries which are multidimensional in nature.
- (viii) A/An is a business management tool used to visually ascertain the status of a business enterprise via key business indicators.
- (ix) is the business-to-business purchase and sale of supplies and services over the Internet.

ANSWER IN THIS BOX

(i) h

(ii) j

(iii) f

(iv) b

(v) i

(vi) g

(vii) e

(viii) c

(ix) a

- (b) Before launching an electronic business on the Internet it is necessary to analyze the situation the company is in. List down eight (8) aspects one would consider in this regard.

(04 marks)

ANSWER IN THIS BOX

Any eight of the following:

- Identify the type of business he is in.
- Evaluate the Internet as the sales and distribution channel.
- Set realistic goals for the online venture
- Use the Internet to cut (reduce) costs.
- Use the Internet to make sales.
- Place the site either at the Internet connection or at the ISP.
- Design the appropriate shopping experience for the customers.
- Get to know better the needs of the customers (profiling).
- Advertise and promote the website (relations).
- Accept online payment.
- Keep up with international laws.

- (c) Name the three (3) types of business processes. Give an example for each.

(06 marks)

ANSWER IN THIS BOX

- Management Processes
 - E.g. Corporate Governance, Strategic Management
- Operational Processes
 - E.g. Purchasing, Manufacturing, Marketing, Sales
- Supporting Processes
 - E.g. Accounting, Recruitment, Information Technology

- (d) Business Process Reengineering (BPR) is a management approach aiming at optimizing and enhancing business process both in the production area and in the administration. Information technology plays an important role in BPR. Give six (6) disruptive technologies which can challenge the traditional wisdom about how work should be performed.

(06 marks)

ANSWER IN THIS BOX

Any six of the following:

- Shared databases, making information available at many places
- Expert systems, allowing generalists to perform specialist tasks
- Telecommunication networks, allowing organizations to be centralized and decentralized at the same time
- Decision support tools, allowing decision making to be a part of everybody's job
- Wireless data communication and portable computers, allowing field personal to work office independent
- Interactive videodisk, to get in immediate contact with potential buyers
- Automatic identification and tracking, allowing things to tell where they are, instead of requiring to be found
- High performance computing, allowing on-the-fly planning and revision

2) *This question is based on the following CASE STUDY.*

Waruna Bookshop is one of the most popular bookshops in Sri Lanka selling a whole range of books about Sri Lanka, including, culture, history and folk arts. Recently they have launched their own website with the help of Webtec (Pvt) Ltd., a website designing company.

However, later they find that they have not achieved a considerable increase in their sales from online sales. Further they find that not a single search engine lists their website and there is not much customer attraction for their website.

To resolve the situation the management of the Waruna Bookshop decides to consult you. As a result, you receive the following questions (a), (b), (c), (d), e(i), e(ii), (f) and (g) at their management meeting where they need answers from you.

- (a) List down eight (8) ways which can attract visitors to the website.

(04 marks)

ANSWER IN THIS BOX

Any eight of the following:

- **Keep the content up-to-date and real-time**
- **Offer free information about products and services to everyone**
- **Offer discounts and incentives for customers who come for the second time**
- **Personalization for returning customers**
- **Privacy notice on the website and keep the customer information confidential**
- **Online and offline reading, and possibility to download and print information**
- **Cross-marketing and cross-selling – inform customer about few other books other people have bought after buying a certain book**
- **Navigational aids in all the web pages – every piece of information on the website can be reached with three clicks**
- **Event marketing – online chats and interviews with popular people**

- (b) List down five (5) technologies which can be used to track customers who visit the website.

(05 marks)

ANSWER IN THIS BOX

Any five of the following:

- Basic authentication – login procedure
- Cookies
- Domain name of customer
- IP address of customer
- Personalized URLs used by a customer
- Digital certificates

- (c) The company wishes to integrate a shopping cart facility to their website. What are the basic functions of a shopping cart?

(03 marks)

ANSWER IN THIS BOX

- Add items
- Delete items
- Display total cost of the items purchased and balance after each transaction
- Finish shopping by checking out

- (d) The company wishes to enable a searching facility for books. List down four (4) search criteria a book can be based on.

(04 marks)

ANSWER IN THIS BOX

Any four of the following:

- Search by ISBN
- Search by author
- Search by title
- Search by category
- Search by subject

- (e)

- (i) What is a Crawler?

(02 marks)

ANSWER IN THIS BOX

It is a program that retrieves a document and then retrieves recursively all documents linked to that particular document. While traversing the document, the crawler indexes the information according to predefined criteria. The information goes into searchable databases. Internet users are then able to query those databases to retrieve certain information.

- (ii) If the company wants a net robot to ignore some of the documents on the web server, what is the name of the file you create and include that information?

(02 marks)

ANSWER IN THIS BOX

robots.txt

- (f) The company wants to know how a search engine classifies a web page. List down three (3) such search strategies used by a search engine.

(03 marks)

ANSWER IN THIS BOX

Any three of the following:

- Number of appearances of a certain keyword on a given web page
- Keywords appear in the domain name or in the URL
- Keywords appear in the title of the web page
- Keywords appear in meta-data
- Number of links pointing to a given webpage

- (g) The company wants to add following keywords to the web pages in their web site. Give the HTML code to show how it can be implemented.

Waruna Books Sri Lanka Culture History

(02 marks)

ANSWER IN THIS BOX

```
<META NAME="Keywords" CONTENT="Waruna, Books, Sri Lanka,
Culture, History">
```

- 3) (a) Cyber-terrorists use different strategies for attacking computing infrastructure of an institution. List down four (4) such strategies.

(04 marks)

ANSWER IN THIS BOX

Any four of the following:

- Virus attacks
- Alternation of information
- Cutting off communication
- Killing from a distance (e.g. by altering the drug dosage of a patient)
- Spreading misinformation

(b)

(i) What are the categories of payment systems which have been established on the Internet?

(03 marks)

ANSWER IN THIS BOX

- Pre-paid system
- Instant-paid system
- Post-paid system

(ii) What is/are the information/components which can be found on a typical credit card?
Give six (6) of them.

(03 marks)

ANSWER IN THIS BOX

Any six of the following:

- Issuing bank logo
- EMV chip
- Cardholder's name
- Hologram
- Magnetic stripe
- Card number
- Signature strip
- Card security code
- Card brand logo
- Expiry date

- (iii) Give two (2) standards which have been established to make credit card payments secure.

(02 marks)

ANSWER IN THIS BOX

Any two of the following:

- SSL encryption
- Secure Electronic Transactions (SET)
- 3D - Secure

(c)

- (i) High-resolution imaging in websites will enhance communication, collaboration and commerce of your business. List down six (6) requirements an Internet technology should meet to provide an image-rich website.

(03 marks)

ANSWER IN THIS BOX

Any six of the following:

- Minimum download speed
- Universal format (no need of special plug-ins or additional software)
- Universal access (no restrictions to access)
- Free choice of browser and image processing software
- Scalability
- Integration with existing solutions (applications)
- Open standard (format) and open source (viewer)

(ii) Identify the following image formats as static or dynamic.

VRML
GIF
PNG
FlashPix
JPEG
BMP

(04 marks)

ANSWER IN THIS BOX

- **Static: GIF, JPEG, PNG, BMP**
- **Dynamic: VRML, FlashPix**

(d) Consider the following technologies and application packages.

Adobe Acrobat Reader
Microsoft Word
Perl
Windows XP
Macromedia Dreamweaver
MPEG
HTML
CSS

ASP
Microsoft FrontPage
MySQL
PHP
Prolog
XML
Python
JSP

(i) Which of the above are programming languages which can be used to implement dynamic web pages?

(02 marks)

ANSWER IN THIS BOX

- **PHP**
- **Python**
- **ASP**
- **JSP**
- **Perl**

- (ii) Which of the above technologies and application packages are available under open source licenses?

(02 marks)

ANSWER IN THIS BOX

- Perl
- MySQL
- PHP
- Python

- (iii) Which of the above are application packages which can be used to create web pages?

(02 marks)

ANSWER IN THIS BOX

- Macromedia Dreamweaver
- Microsoft FrontPage

- 4) (a) What kinds of legal disputes are possible between a merchant and a customer in an e-commerce online shopping scenario?

(05 marks)

ANSWER IN THIS BOX

- The customer pays, but the merchant does not deliver
- The customer pays, but the merchant delivers the wrong goods or less in quantity or broken ones
- The customer pays, but the money does not arrive at the seller
- The merchant delivers, but the customer refuses to pay
- The merchant delivers, but the customer has not ordered anything

(b)

(i) List down six (6) data principles which regard to privacy of personal data.

(06 marks)

ANSWER IN THIS BOX

Any six of the following:

- Manner of collection of personal data: fair and lawful collection of data. Data user must be informed of when and what personal data is collected and its purpose
- Purpose of collection of personal data: purpose must be specified and data should be adequate, relevant and not excessive in relation to the purpose
- Use of personal data: personal data must not to be disclosed unless in relation to the purpose in which it is collected
- Accuracy of personal data: data collected should be accurate, complete, relevant, not misleading and up-to-date
- Duration of retention of personal data: data must not be kept for longer than is necessary for that purpose
- Access to and correction of personal data
- Security of personal data: safeguard against unauthorized or accidental access or alter
- The policy for the information to be generally available

- (ii) List six (6) types of sensitive personal data usually prohibited from collecting or retaining.

(06 marks)

ANSWER IN THIS BOX

Any six of the following:

- Racial or ethnic origins
- Political opinions
- Membership of political associations
- Religious beliefs or affiliations
- Philosophical beliefs
- Membership of a professional or trade association
- Membership of a trade union
- Sexual preference or practices
- Criminal record
- Individual health information

- (c) While you are visiting a certain website, you see the following logo. What is represented by this logo?



(04 marks)

ANSWER IN THIS BOX

The website content is licensed under a Creative Commons Attribution
license

- (d) Name two (2) electronic laws embarked by the Government of Sri Lanka in 2003 to the development of Information and Communication Technology in the country.

(04 marks)

ANSWER IN THIS BOX

- **Computer Crimes Bill 2003**
- **Information and Communication Technology Act 2003**
