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The Career Development College

NOVEMBER 2013 EXAMINATION

DATE: 13 NOVEMBER 2013

TIME: 14H00 – 16H00 TOTAL: 100 MARKS

DURATION: 2 HOURS PASS MARK: 40%

(BS-IS)

INFORMATION SYSTEMS

THIS EXAMINATION PAPER CONSISTS OF 4 SECTIONS:

SECTION A:	**CONSISTS OF:**	
	(i) 10 MULTIPLE-CHOICE QUESTIONS	**(10 MARKS)**
	(ii) 5 TRUE OR FALSE QUESTIONS	**(10 MARKS)**
	(iii) 10 MATCHING-STATEMENT QUESTIONS	**(10 MARKS)**
	ANSWER ALL THE QUESTIONS	
SECTION B:	**CONSISTS OF 10 SHORT QUESTIONS**	
	ANSWER ALL THE QUESTIONS	**(10 MARKS)**
SECTION C:	**CONSISTS OF 4 LONG ANSWER QUESTIONS**	
	ANSWER ALL THE QUESTIONS	**(50 MARKS)**
SECTION D:	**CONSISTS OF 1 INTERPRETATIVE QUESTION**	
	ANSWER THE QUESTION	**(10 MARKS)**

INSTRUCTIONS:

1. Read the following instructions *carefully* before answering the paper, as failure to act upon them will result in a loss of marks.
2. Write your answers in your answer book, which is provided in the exam.
3. Ensure that your name and student number are clearly indicated on your answer book.
4. Write your answers in either blue or black ink in your answer book.
5. Read each question very carefully before you answer it and number your answers *exactly* as the questions are numbered.
6. Begin with the question for which you think you will get the best marks.
7. Note the mark allocations for each question – give enough facts to earn the marks allocated. Don't waste time by giving more information than required.
8. You are welcome to use diagrams to illustrate your answers.
9. Please write neatly – we cannot mark illegible handwriting.
10. Any student caught cheating will have his or her examination paper and notes confiscated. The College will take disciplinary measures to protect the integrity of these examinations.
11. If there is something wrong with or missing from your exam paper or your answer book, please inform your invigilator immediately. If you do not inform your invigilator about a problem, the College will not be able to rectify it afterwards, and your marks cannot be adjusted to allow for the problem.
12. This paper may be removed from the examination hall *after* the examination has taken place.

SECTION A **(30 MARKS)**

ANSWER ALL THE QUESTIONS

(i) MULTIPLE-CHOICE QUESTIONS

Choose the correct option for each of the following. Write only the question number and your chosen answer. For instance, if you think that the correct answer for number 1 is (a), then write it as 1. (a).

1. Which one of the following explains the term B2B?

   (a) back-to-back printing
   (b) transactions between businesses using the Internet
   (c) a type of CPU
   (d) a software package

2. What does the term data redundancy refer to?

   (a) unwanted data
   (b) incorrect data
   (c) missing data
   (d) duplicate data

3. Which one of the following professionals is responsible for the overall design of a system?

   (a) DBA
   (b) programmer
   (c) systems analyst
   (d) operator

4. Which one of the following is most likely to be produced on a spread sheet?

   (a) agenda
   (b) balance sheet
   (c) memo
   (d) engineering drawing

5. Which one of the following is an example of systems software?

   (a) word processor
   (b) spreadsheet
   (c) operating system
   (d) database

6. What type of device would you use to input a graphic image into your computer?

   (a) optical reader
   (b) scanner
   (c) monitor
   (d) plotter

7. Which device would you use to store a full-length movie?

   (a) tape streamer
   (b) DVD
   (c) CD
   (d) hard drive

8. In what unit of measurement is memory capacity measured?

   (a) tracks
   (b) sectors
   (c) bits
   (d) bytes

9. In what unit of measurement is screen resolution measured?

   (a) bytes
   (b) pixels
   (c) bits
   (d) centimetres

10. What kind of software integrates all the vital business operations of an organisation and enables it to perform optimally and maximise its profits?

    (a) enterprise
    (b) applications
    (c) systems
    (d) utility [10]

(ii) <u>TRUE OR FALSE QUESTIONS</u>

Indicate whether the following statements are True or False. Motivate all your answers.

1. Processed data is meaningless.

2. A firewall is hardware that protects against attacks on a network.

3. DML is a set of commands that are used to define and describe data.

4. RAM chips lose their contents if the current is turned off or disrupted.

5. A payroll system is an example of systems software. [5 × 2 = 10]

(iii) MATCHING-STATEMENT QUESTIONS

Match the statements in Column B to the terms in Column A. Write down the answers only, for example 1. (a).

Column A		Column B	
1.	tags	(a)	the ability to increase the processing capability of a computer system so that it can handle a bigger volume of transactions in a given period
2.	ISP	(b)	the set of rules pertaining to a programming language
3.	outsourcing	(c)	extensively used by RAD for data collection and requirements analysis
4.	server	(d)	an example of a popular ERP software package
5.	scalability	(e)	contracting with outside professional services to meet specific business needs
6.	blog	(f)	a computer used for running a network
7.	logical	(g)	a company that provides individuals and organisations with access to the Internet
8.	JAD	(h)	used in HTML coding, they tell the browser how to display or format portions of a hypertext document
9.	syntax	(i)	an online diary
10.	SAP	(j)	functional requirements of a system are described during this systems design phase

[10]

[30]

SECTION B: SHORT QUESTIONS **(10 MARKS)**

ANSWER ALL THE QUESTIONS

QUESTION 1

What name do we give to commercial transactions that are conducted using the Internet? [1]

QUESTION 2

Give another name for software re-engineering. [1]

QUESTION 3

What tracking technology employs a microchip to broadcast its unique identifier and location to receivers? [1]

QUESTION 4

What do we call software that is used to communicate between the Internet and old legacy systems? [1]

QUESTION 5

What uniquely identifies a record in a database? [1]

QUESTION 6

Which telecommunications service delivers high-speed Internet access to homes and businesses using existing telephone lines? [1]

QUESTION 7

Which business function is supported by inventory control, order processing, goods receiving and accounts payable systems? [1]

QUESTION 8

Which component of a Decision Support System allows decision makers to access and manipulate the DSS? [1]

QUESTION 9

Where are the rules, data, cases, and relationships used by an expert system stored? [1]

QUESTION 10

What do we call an area where wireless access is available, for instance in a coffee shop? [1]

[10]

SECTION C: LONG ANSWER QUESTIONS **(50 MARKS)**

ANSWER ALL THE QUESTIONS

QUESTION 1

(a) What does the abbreviation CIO stand for? (1)

(b) What are the two main skills required of a CIO? (2)

(c) Explain three of the CIOs main concerns. (3 × 2 = 6)

(d) Name the three main divisions normally found in an IS department of a medium to large company, and briefly describe the responsibilities of each. (3 × 2 = 6) [15]

QUESTION 2

Describe the following modern technologies in sufficient detail to earn three marks. Make sure that you clearly explain their purpose and how they work.

(a) Agile Systems Development (3)

(b) M-commerce (3)

(c) Broadband over power lines (3)

(d) AI (3)

(e) CASE (3) [15]

QUESTION 3

(a) Distinguish clearly between the following terms:

i. the Internet (2)

ii. the World Wide Web (2)

iii. an Intranet (2)

iv. an Extranet (2)

(b) List two of the broad categories of computer software. (2) [10]

QUESTION 4

Explain the following types of computers:

(a)	Thin client	(4)	
(b)	Desktop computer	(3)	
(c)	Workstation	(3)	[10]

[50]

SECTION D: INTERPRETATIVE QUESTION **(10 MARKS)**

ANSWER THE QUESTION

QUESTION 1

Draw an entity-relationship diagram for a college administration system. Take the following rules into account:

(a) A college has many departments and a department belongs to only one college.

(b) A department has many professors and each professor can teach in more than one department.

(c) A professor may teach more than one student and a student may be taught by more than one professor. However a professor need not have any students.

There should be four entities and three relationships. In your drawing label the entities and show the relationships clearly. Mark the 'many' side of a relationship with a crow's foot. Show if a relationship is one-to-many or many-to-many, as well as whether it is optional or not optional. [10]

[10]

Section A: 30 marks
Section B: 10 marks
Section C: 50 marks
Section D: 10 marks
TOTAL: 100 MARKS