

**KABARAK**



**UNIVERSITY**

**UNIVERSITY EXAMINATIONS  
2010/2011 ACADEMIC YEAR  
FOR THE DEGREE OF BACHELOR OF COMMERCE  
AND PRE-UNIVERSITY**

**COURSE CODE: COMP100/PCOMP011**

**COURSE TITLE: INTRODUCTION TO COMPUTER  
APPLICATIONS**

**STREAM: Y1S1 & PRE- S1**

**DAY: THURSDAY**

**TIME: 9.00 – 11.00 A.M.**

**DATE: 24/03/2011**

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**INSTRUCTIONS:**

- 1. This question paper has four questions**
- 2. QUESTION ONE IS COMPULSORY AND HAS 30 MARKS**
- 3. Answer any other two questions worth 20 marks each.**

**PLEASE TURN OVER**

## SECTION A: (COMPULSORY – 30 MARKS)

### QUESTION 1

The Internet has become a part of everyday life.

- a) When communicating with a bank or sending credit or debit cards details to an e-Shop, an application software is used to gain access to internet first. What is this software? Give two examples. (2 marks)
- b) A new operating system has been published. For the purposes of this question, assume that you know the name of the operating system but do not know the Internet address of the software house that produced it. Explain how you could use the Internet to find details of this new operating system. (2 marks)
- b) An item in a supermarket has a pattern of 'zebra' stripes like the one shown.



- i) What input device reads it? (1 mark)
- ii) Explain why it is not necessary to change the pattern of stripes on the box if the price of an item (e.g. a 200g box of chocolates) changes. (2 marks)
- iii) How should a checkout operator input the code if the input device could not read this pattern? (1 marks)

The table below lists six activities that could be carried out using a computer:-

Activity Number	Activity	Input Device
1	Copying a picture from a magazine so that it can be inserted into a word-processed document	
2	Selecting an item from a drop menu when word-processing	
3	Entering text when word-processing	
4	Drawing a diagram such as a flowchart	
5	Processing batches of cheques in a bank	
6	Marking multiple choice examinations	

Copy and complete this table by adding the name of a suitable input device. To save time you may omit the middle column if you wish. (6 marks)

- c) Differentiate these terms:
- i) EPROM and EEPROM
  - ii) Serial and Parallel processing
  - iii) Standard package and Tailor made
  - iv) Email and Voice mail
  - v) Analog and Digital signal
- (10 marks)

- d) What do the following initials stand for:
- i) WYSIWYG
  - ii) ISP
  - iii) TB
- (3 marks)
- e) List SIX features of a good user-friendly software package. (3 marks)

**SECTION B: (ATTEMPT ANY TWO QUESTIONS. EACH QUESTION HAS 20 MARKS)**

**QUESTION 2**

- a) With the aid of a diagram, briefly describe the functional components that make up a computer system. (12 marks)
- b) What do the following terms mean:
- i) Bandwidth
  - ii) Amplitude
  - iii) Modem
  - iv) VOIP
- (4 marks)
- c) One kind of computer network is called a LAN (Local Area Network). Give TWO advantages and TWO disadvantages of having a LAN rather than stand alone computers in an office. (4 marks)

**QUESTION 3**

- a) Some recent magazine articles suggest that in the near future new computers will not have a floppy disk drive but will only have a CD/ DVD read/write drive. Do you think this is likely to happen? Give a reason for your answer. (2 marks)
- b) Explain three characteristics of good information. (6 marks)
- c) A family bought a computer system. The hardware items supplied included: a 750MHz processor, 250MB of RAM, a sound-card, speakers, a monitor, a keyboard, a 12GB hard disk, a floppy disk drive, a CD-Read-Write drive, a mouse, modem, an inkjet printer, a joystick. The software supplied included an operating system, a basic interpreter, and the following packages; spreadsheet and graphics, word-processor, art, database and games.
- i) From the list of hardware give the names of three manual input devices. (3 marks)
- ii) From the same list of hardware explain the meaning of the following:
- 750MHz (1 mark)
  - 250MB (1 mark)
  - 12GB (1 mark)
- ii) What is backup and why is it necessary? (2 marks)

- iv) How many flash disks of 512MB will be required to backup the 12GB hard disk? (2 marks)
- d) What is a biometric system? (2 marks)

#### QUESTION 4

- a) Differentiate data verification and data validation (2 marks)
- b) Define the following data validation terms.
- i) Check digit
  - ii) Cross field validation
  - iii) Format check
  - iv) Range check (4 marks)
- c) What is encryption and why is it necessary? (2 marks)
- d) i) What is ergonomics?  
ii) Briefly describe any five health and safety hazards that are related to working with computer. For each state what an employer must do to minimize this risk. (5 marks)
- e) Explain the meaning of the following topologies:
- i) Ring
  - ii) Bus
  - iii) Star (6 marks)
- f) What is hyperlink as far as internet is concerned. (1 marks)

#### QUESTION 5

- a) Compute the following:
- i.  $98545.8425_{10} \Rightarrow X_{16}$  (2 marks)
  - ii.  $98549.265_{16} \Rightarrow X_8$  (2 marks)
  - iii.  $AFB2.4F3_{16} + 343.706_8 + 111011101001.10111_2$  (2 marks)
  - iv.  $342.45_8 * 231.324_8$  (2 marks)
  - v.  $FDB0.A0F0_{16} - 2FCF.BFB3_{16}$  (2 marks)
  - vi.  $4725_8 / 54_8$  (2 marks)
  - vii.  $10000010111_2 / 101_2$  (2 marks)
- b) What negative number do these bits represent?
- i.  $000001111_2$  (2c) (2 marks)
  - ii.  $0010000010_2$  (1c) (2 marks)
- c) Define hexadecimal number system. (2 marks)