EASTERN UNIVERSITY , SRI LANKA
First Examination in Agriculture – 2001
MAT 1101 - Computer Literacy & Applications and Basic Mathematics
Repeat

Answer all Question   Time allowed   : 03 Hours

SECTION A
Computer Literacy & Applications

Question 01

a)   01.   Name the technology used in microchip manufacturing in 1980's.
     02.   Name two microprocessor manufacturing companies other than Intel
     03.   Name two impact character printers.
     04.   Name the unit used to measure the resolution of a monitor.
     05.   Name two object oriented programming languages.   (5*5=25)

b)   01.   State the concept put forward by John Von Newman.
     02.   State two application of Bar Codes.
     03.   State two factors in selecting an input devices.
     04.   Compare "WINCHESTER DISKS" and "CD-ROM".
     05.   What is Firmware.   (5*10=50)

b)   State the full Name of the following .

     01.   EPROM
     02.   WORM
     03.   HTML
     04.   OMR
     05.   ATM

                                                                   (5*5=25)

Question 02

01.   Identify and explain the components of System Software.   (20)
02.   Write down the ways to open a file in Windows.   (10)
03.   What is the usage of "Disk defragmenter" in Windows.   (15)
04.   Briefly describe the "GUI" of MS-Windows operating system   (25)
05.   Write the equal number of 49_{10} in
      a.   Binary
      b.   Octal
      c.   Hexadecimal
                                                                   (3*10=30)

Question 03

a)   Explain usage of the following features.
     01.   Custom size of a paper
     02.   Mail-Merge
     03.   Undo
     04.   Auto Text Entry
     05.   First Line Indentation
                                                                   (5*5=25)

1

b) Define the following terms in spreadsheet environment:
01. Workbook and worksheet
02. Cell and cell address
03. Formula Bar
04. Menu Bar and Tool Bar
05. Formatting Cell's data.

c) (5*5=25)

| Name	Marks	Grade
Ravi	45	
Kamlan	75	
Rajan	15	

Write the formulae in MS Excel to print the grades for the above data set.
It should display the Grades based on the following marks range.

Marks Range	Grade
>=75	A
>=65 and <75	B
>=55 and <65	C
Otherwise	F

d)
01. Define the architecture of "DBMS". (25)
02. Briefly explain the relational model of database. (05)
03. Explain the four major objects in ACCESS. (10)

(10)

Question 04

01. What is computer network
02. Name and explain about two uses of Internet (10)
03. What is Virus & how does it spread. (20)
04. How viruses can be eradicated. (25)
05. How does IT can be utilized to improve methods and practices that are being (20)
followed in creating agricultural based products and services.
(25)
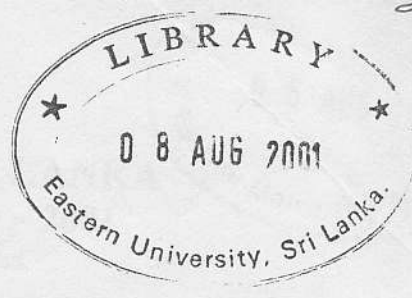
SECTION B
Basic Mathematics

Question 05

a) Simplify the following.

   1. $\dfrac{3a^2b^2c}{4bc^2} \times \dfrac{5b^3c^2a}{bca} \div \dfrac{3ab^2}{7c^3a^2b}$;

   2. $\dfrac{\left(a^{1/2} \times b^{1/3} \times c^{1/4}\right)\left(a^0\,b\,c\right)}{a^{1/2} \times b^{1/3} \times c^{1/4}}$.

b) (i) Solve the following : $3^{2x-2} + 9 = 2 \times 3^x$

   (ii) Solve the simultaneous equation

   $$\frac{3}{x} + \frac{7}{y} = 2$$
   $$\frac{12}{x} - \frac{21}{y} = 1$$

   (iii) Solve the equation $\dfrac{1}{\log_x 2} + \dfrac{1}{\log_x 4} + \dfrac{1}{\log_x 16} = \dfrac{21}{4}$.

c) Factorize the following :

   (i) $(x + 3)^2 - (x - 7)^2$;
   (ii) $x^2 + 16 x + 64$.

Question 06

a) Differentiate the following functions with respect to x

   1. $y = (x^2 - x - 1)(x^2 + x + 1)$;

   2. $y = \dfrac{6x^2 + 4x + 10}{(x^3 + x^2 + 5x)^3}$;

   3. $y = \log [\sqrt{x - a} + \sqrt{x - b}]$.

b) If $x = (t^2 + 1)^2$ and $y = (t^2 - 1)$ then find $\dfrac{dy}{dx}$ in terms of t.

c) Find the maximum and minimum values of the function
   $4x^3 + 9x^2 - 12x + 3$.

3