
PART 1 [40 marks] True False and multiple-choice questions:

a) In each of the following cases indicate if the statement is True or False and then justify your answer: [1/2 mark for T / F 1/2 mark for justification, total 15 marks]

T / F 1) Both the Plasma and the LCD monitors are based on the same technology.

T / F 2) Vendors of some of the peripheral devices supply a disk or a CD with the device so that the user may store data on it.

T / F 3) In MS Word, a section break is used to insert a blank page in a document.

T / F 4) While representing analog signals in a computer, a higher sampling rate ensures a better quality.

T / F 5) TCP / IP is hardware used to connect two dissimilar computer networks.

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PART- 1a Continued.....

T / F 6) An instruction pointer is a register that holds the address of the next instruction to be processed by CPU.

T / F 7) In MS Access, when you run a calculation query you must save the result of calculations for future use.

T / F 8) Data duplication is a desirable aspect of relational databases.

T / F 9) In MS Access a user can enter a null value into a primary key field or a foreign key field.

T / F 10) A primary key field and the corresponding foreign key field in a related table must have same data types.

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PART- 1a Continued.....

T / F 11) To display pairs of values with data points connected by lines, use a scatter plot.

T / F 12) In MS Access, a field that has "Number" as its data type and "Integer" as sub-type, can only store positive numbers.

T / F 13) In an Excel worksheet, if you want a dollar sign (\$) to precede currency values in the cells of a column, the \$ **must be typed** in the cell before typing the value.

T / F 14) In MS Access, one can create a Report using the *AutoReport* command or the *Report Wizard* or the Design View.

T / F 15) The maximum distance between two computers at extreme ends of a LAN can be 1000 meters.

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PART 1b) Multiple-choice questions

Identify the letter of choice that best completes the statement or answers the question:
[1 marks each correct answer, 0 otherwise, total 25 marks]

- _____ 1) Hard disk and tape storage technologies can be classified as _____ storage.
- a. optical
 - b. digital
 - c. analog
 - d. magnetic
- _____ 2) If a program exceeds the allocated space in RAM, the operating system uses an area of the hard disk called _____ memory to store parts of a program or data file until they are needed.
- a. volatile
 - b. capacitor
 - c. virtual
 - d. integrated
- _____ 3) The speed specifications that you see in a computer ad indicate the speed of the microprocessor's _____.
- a. control unit
 - b. register
 - c. clock
 - d. All of the above
- _____ 4) Eight bits are called a(n) _____.
- a. unit
 - b. analog
 - c. byte
 - d. word
- _____ 5) Laura wants to make sure her computer is faster in her every day use. What feature is the most important?
- a. CMOS
 - b. hard disk storage
 - c. RAM
 - d. ROM
- _____ 6) One of the computer ads she is looking at specifies "512 MB 400 MHz SDRAM (max 2GB)." What does the 512 MB specify?
- a. CMOS
 - b. RAM
 - c. RDRAM
 - d. SDRAM

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PART- 1b Continued.....

- _____ 7) The ROM _____ tells the computer how to access the hard disk, find the operating system, and load it into RAM.
- a. RDRAM
 - b. RIMM
 - c. BIOS
 - d. DVD
- _____ 8) Unlike disk storage, most RAM is _____.
- a. virtual
 - b. integrated
 - c. non-volatile
 - d. volatile
- _____ 9) The computer's main circuit board, called a _____, houses all essential chips and provides connecting circuitry between them.
- a. DIMM
 - b. MCB
 - c. motherboard
 - d. ECB
- _____ 10) In a CRT monitor, the rate at which the pixels are re-energized (re-lit) is called the _____.
- a. Pixel speed
 - b. Bitmap rate
 - c. Refresh rate
 - d. Scan rate
- _____ 11) A bus consists of _____.
- a. Registers
 - b. Parallel data paths
 - c. Megabytes
 - d. Machine cycles
- _____ 12) Karen also wants to know how to convert one instruction at a time while the program is running. What should she use?
- a. Compiler
 - b. Interpreter
 - c. Machine Language
 - d. Object code
- _____ 13) A(n) _____ interface features menus and icons that you can manipulate with the click of a mouse.
- a. command-line
 - b. graphical user
 - c. buffer
 - d. dexed

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PART- 1b Continued.....

- _____ 14) The _____ provides the most essential operating system services, such as memory management and file access.
- a. kernel
 - b. motherboard
 - c. core
 - d. control panel
- _____ 15) What method does an Ethernet network use to control access to the network?
- a. ISDN
 - b. DSL
 - c. CSMA/CD
 - d. A bus
- _____ 16) A group of Web pages is usually referred to as a Web _____.
- a. book.
 - b. pamphlet.
 - c. place.
 - d. site.
- _____ 17) Many people access the Internet using a dial-up connection that requires a telephone and a _____.
- a. cable
 - b. modem
 - c. PC card
 - d. network
- _____ 18) Regardless of the access method, individuals cannot typically connect directly to the Internet backbone and, therefore, need to use a(n) _____ as an intermediary.
- a. ISP (Internet Service Provider)
 - b. DSL (Digital Subscriber Line)
 - c. DSS (Digital Satellite Service)
 - d. None of the above
- _____ 19) Most Web pages contain _____ to related documents and media files.
- a. icons
 - b. keys
 - c. links
 - d. passages
- _____ 20) _____ is the communications standard that is instrumental in transferring Web documents to all corners of the Internet.
- a. HTML (Hypertext Markup Language)
 - b. FTP (File Transfer Protocol)
 - c. Telnet
 - d. HTTP (Hypertext Transfer Protocol)

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PART- 1b Continued.....

- _____ 21) Signals that can be sent and received at the same time, over the same channel- for example a telephone conversation are _____.
a. Broadband
b. Full duplex
c. Half duplex
d. Simplex
- _____ 22) A _____ is a device that joins at least two networks.
a. bridge
b. gateway
c. router
d. all of the above
- _____ 23) A _____ is used to view, add, delete, update, and print records in the database.
a. key
b. report
c. form
d. field
- _____ 24) When a field does not contain a value, either because that value is unknown or inapplicable, it is called a(n) _____ value.
a. void
b. null
c. empty
d. redundant
- _____ 25) In a database, a _____ is a single characteristic of an entity.
a. row
b. record
c. table
d. field

PART 2 [16 marks] – Spreadsheet Questions. Answer in the space provided.

- 1) Cell D15 of a worksheet contains the formula = $\$A\$25/C15$. What formula will appear in cell D15 after two additional rows are inserted between row 20 and 21? [2]

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PART 2 Continued.....

2) With reference to spreadsheet built-in functions, what is an argument? Give an example of a built-in function that needs no argument. [2]

3) With reference to the worksheet given below, what are the results displayed in cells having the following formulae: [3x2]

	A	B	C	D	E	F	G	H	I
1									
2	5		10		20	30	40		
3	9		20		5	8	11		
4	15		30		3	5	7		
5	41		40		2	6	9		
6									
7									
8		100	8		12	14			
9									

=VLOOKUP(A2, C2:F5, 3, True)

=VLOOKUP(B8, C2:F5, 2, True)

=IF(AND((B8 + C8 < 100), (D8 - E8 < 0)), "Valid", "Invalid")

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PART- 2 Continued.....

4) The following worksheet shows the result of a class who took the course 1AB4 at a university that follows a 4-point GPA system. Calculations were also carried out to show the mean and the median GPA of the entire class as well as the average GPA of all those students who were 18 years old. (Adding the individual GPAs of all students in a group and then dividing the result by the total number of students in the group can calculate average GPA of the group of students). Only built-in worksheet functions were used for all calculations. Give the formula that was entered in:[3x2]

a) Cell G9

b) Cell G10

c) Cell G11

	A	B	C	D	E	F	G
5	Stu.ID	Gender	AGE		1AB4		
6	00101	m	19.00		4.00		
7	00102	m	20.00		3.30		
8	00103	f	20.00		3.25	Statistical Calculations:	
9	00104	m	18.00		1.50	Mean	2.75
10	00105	f	20.00		2.53	Median	2.72
11	00106	m	19.00		2.00	Average GPA of 18 year olds	1.76
12	00107	f	21.00		2.53		
13	00108	m	20.00		3.75		
14	00109	f	19.00		3.80		
15	00110	m	18.00		1.00		
16	00201	f	20.00		2.90		
17	00202	m	21.00		2.53		
18	00203	m	19.00		4.00		
19	00204	m	18.00		1.50		
20	00205	f	20.00		3.30		
21	00206	m	19.00		2.00		
22	00207	f	20.00		2.53		
23	00208	m	20.00		3.75		
24	00209	f	18.00		3.80		
25	00210	f	18.00		1.00		
26							

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PART 3 [20.5 marks] -- Database Questions. Answer in the space provided.

1) State three methods to create a "Form" in MS Access. [1.5]

2) For an MS Access database table, what field type is most suitable (not too big or too small) for a field used to store population of different provinces in Canada? What will be the size / subtype of this field?[2]

3) You were required to create the following four tables for a database in your assignment #3 (Only partial data is being shown in some of the tables to save space).

courses : Table		
Course Code	Credit Hours	Course Description
+ COMMERCE 1	3	Introduction to business
+ CS 1BA3	3	Computer Fundamentals for commerce students
+ CS 1TA3	3	Computer Fundamentals
+ ECON 1A06	6	Introduction to economics
+ MATH 1A03	3	Calculus 1
+ MATH 1M03	3	Calculus for business

Record: 1 of 6

instructors : Table								
InstrID	InstrFN	InstrLN	InstrAddress	City	Province	PostalCode	InstrPhone	
1	Anne	Ley	505 King Street	Hamilton	On	L7F 3L7	(905)5751213	
2	David	Johri	301 Stone Chur	Hamilton	On	L7S 3L6	(905)5255566	
3	David	Moore	711 Concession	Hamilton	On	L9P 2S6	(905)5752282	
4	Gary	Lovic	1001 Earl Cres	Burlington	On	L7R 1N1	(905)3589761	
5	Mander	Singh	1233 Dillon Roa	Burlington	On	L7M 1K6	(905)3589761	
6	Peter	Fitzgerald	501 King Street	Hamilton	On	L7F 3L7	(905)5254466	
7	Shamir	Mehta	2136, King Stre	Hamilton	On	L8N 4L8	(905)5252233	
8	Sharon	Cossa	319 Henderson	Burlington	On	L7M 2V3	(905)3589991	
9	Teresa	Carter	107 Main Street	Hamilton	On	L8S 4L8	(905)5253321	
10	Zahra	Naqvi	411 Guildwood	Burlington	On	L7N 1Y1	(905)3589761	

Record: 1 of 10

StudentInfo : Table									
StudentID	Last Name	First Name	Street Address	City	State/Province	Country	Zip code	Phone	Date of Birth
1	Scott	Cooper	105, Main Stree	Hamilton	Ont	Canada	L8N 1G5	(905)331 232	1/1/1985
2	Oscar	Canales	370 Main Street	Hamilton	Ont	Canada	L8N 1J4	(905)222 343	2/1/1986
3	Frank	Cooke	18 Suter Cresce	Dundas	Ont	Canada	L9H 2J4	(905)388 558	3/3/1985
4	James	Dean	192 Plains Road	Burlington	Ont	Canada	L7T 2C4	(905)528 576	2/12/1986
5	Leonard	Graboshas	605 James Stre	Hamilton	Ont	Canada	L8R 2K6	(905)365 928	3/14/1985
6	George	Laic	456 Arvin Ave	Stoney Creek	Ont	Canada	L8E 5S6	(905)544 984	4/15/1985
7	Fred	Mackenzie	1119 Fennel Ave	Hamilton	Ont	Canada	L9A 1R7	(905)540 124	5/21/1986

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StudentRec : Table				
Student ID	Course Code	InstructorID	Marks	Grade
	CS 1BA3	5	86	A
1	ECON 1A06	2	85	A
1	MATH 1M03	3	86	A
1	COMMERCE 1	8	74	B
2	CS 1TA3	5	70	B-
2	ECON 1A06	2	86	A
2	MATH 1A03	4	78	B+
2	COMMERCE 1	8	63	C
3	ECON 1A06	10	88	A
3	CS 1TA3	1	78	B+
3	MATH 1A03	4	74	B
3	COMMERCE 1	8	77	B+
4	MATH 1M03	7	86	A

Record: 1 of 130

Answer the following questions based on these tables:

- a) Give design details of the table "StudentInfo" only. (As done in MS Word part of your assignment #3 for all tables) [4]

- b) Identify primary and / or foreign keys in each table.[4]

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Name: _____ Student #: _____ Tutorial #: _____

PART 3 Continued.....

- c) In the blank design grid below, design a query for the above database that will display, in alphabetical order, the last names of all students who either got a grade of A in CS1 BA3 or a grade of B or B+ in Commerce 1. (If an expression does not fit in a particular cell, write it in the space below the design grid suitably indicating the cell in which it must be written)[4]

Field:				
Table:				
Sort:				
Show:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Criteria:				
or:				

- d) Use the blank design grid below to design a custom calculation query that extracts the last names of all students who scored more than 80 marks in CS1BA3. It also calculates the current age of these students and displays it in a separate field rounded to two decimal places. (If an expression does not fit in a particular cell, write it in the space below the design grid suitably indicating the cell in which it must be written) [5]

Field:				
Table:				
Sort:				
Show:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Criteria:				
or:				

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2) In class, we discussed two main categories of fonts. One of them is proportional font. What is the name of the other? Give an example of each. [2]

4) How many bits are required to store the following text in a computer using UNICODE code representation for characters? [2]

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PART 5 [15.5 marks] -- Networks, internet and HTML Questions. Answer in the space provided.

1) List three of the most common cable types that are used in links that computer networks use for carrying data. [1.5]

2) What is the main difference between a gateway and a bridge? [2]

3) Consider the following URL of the school of business at McMaster University
<http://www.degroote.mcmaster.ca/>
Identify the sub-domain in this URL. [1.5]

4) In class, we discussed several ways of classifying networks. List three of these classifications. [1.5]

PART- 5 Continued.....

5) We discussed different network topologies in class. Explain the linear bus topology with the help of a diagram. Give at least one strong point and one weak point of this topology. [2]

6) Give only that part of HTML code that displays the following text exactly as shown below: [4]

Glossary of Terms:

LAN

Local Area Network.

WAN

Wide Area Network.

CAN

Campus Area Network.

PAN

Personal Area Network.

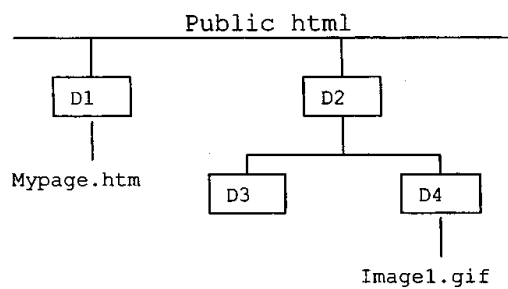
HTML

Hyper Text Mark Up Language.

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PART 5 -- continued ...

7) Consider the directory structure shown below. Assume that you are creating a web page named Mypage.htm in directory D1. You want to show the image named Image1.gif saved in directory D4. Give HTML code for displaying the image in the horizontal center of the web page. [3]



```
<HTML>
<HEAD>
  <TITLE> Final Exam 2007</TITLE>
</HEAD>
<BODY>
  (Write your HTML code in this space)

  </BODY>
</HTML>
```

THE END