FOCUS A365

Another Manyamfranchise.Com Evaluation Test

ATIKASCHOOL.COM

Form Three | **Term 1** | **Computer Studies** | **26-Mar-16** | **Terminal**

ADM#:..... NAME:..... CLASS:.....

Instructions: It's Strongly Recommended that you answer all the questions provided

Section A

1. State **four** peripheral devices that can be classified in the category of output devices **(2mks)**

……

……

……

……

2. Discuss the following terms as used with **disk management**

   a. Formatting **(1mk)**

……

……...

   b. Compression **(1mk)**

……

……

   c. backup **(1mk)**

……

……

   d. partitioning **(1mk)**

……

……

……

e. fragmentation **(1mk)**

……

……

3. Draw symbols to illustrate the following cables

a. USB **(1mk)**

b. SCSI **(1mk)**

c. Firewire **(1mk)**

4. Differentiate between **COM** port and **LPT** ports. **(3mks)**

……

……

……

5. What is an Internet Service Provider? **(1mk)**

……

……

6. Explain the following software terms: **(2mks)**

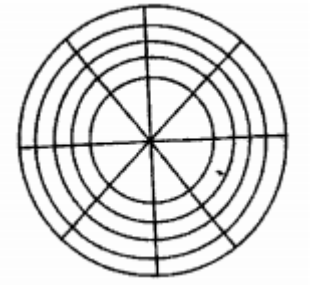
(a) Portability ……..

……

(b) Modularity ……

……

7. The diagram below shows a formatted plate surface of a storage disk **(2mks)**



Shade and label:

(a) One sector

(b) One block

8.

(a) One of the functions of an operating system is job scheduling **(2mks)**

Explain what is meant by job scheduling.

……

……

(b) List and explain **three** types of user interfaces **(6mks)**

……

……

……

……

……

……

(e) Describe the following categories of software: **(2mks)**

(I) firmware

……

……

(II) Proprietary software. ……

(d) A new company XYZ intends to go into the business of desktop publishing. Advise the company on three computer hardware system specifications features to consider as a measure of enhancing performance. **(3mks)**

……

……

……...

9. Differentiate between dynamic storage and auxiliary storage. **(1mk)**

……

……

10. The formula **=$M30+Q$20** was typed in cell **R15** and then copied to cell **M24** of a spreadsheet. Write the formula as it appears in cell **M24**. **(2Mks)**

……..

11. Explain the following terms as used in desktop publishing. **(2mks)**

I. Embedded object

……

……

II. Auto flow

……

……

12. The tools below are found on the formatting tool bar identify the tools and their functions. **(2mks)**

.....

……

……

13. (a) Differentiate between an index and a primary key. **(2mks)**

……

……

(b) State **two** objectives of normalization. **(2mks)**

……

……....

14. State any **four** advantages of using an electronic spreadsheet as compared to a traditional worksheet. **(2mks)**

……

……

……

……

15. (a) Basic computer setup and cabling is a very important concept to be taught in a computer class. Give **two** reasons to support the above concept. **(2mks)**

……

……..

(b) State any **two** factors to be considered when selecting hard copy output devices. **(2mks)**

……

……..

(c) Name **four** types of database models **(2mks)**

……

……

……

……

Section B

16. a) Convert the following **hexadecimal** number to its **decimal** equivalence 111_{16} ***(3mks)***

b) Perform the following binary arithmetic.

i. $11111_2 + 11111_2$ **(2mks)**

ii. $11010_2 - 1010_2$ **(2mks)**

c) Convert the following binary number 1101.01_2 to decimal. **(2mks)**

d) Using twos complement (2c) subtracts 28_{10} from 17_{10} in 7 bit form. **(3mks)**

e) Using one's complement (1c) work out the following in 8 bit form. **(3mks)**

31_{10}-12_{10}

17. (a) List **two** programs that can be used by Web Developers. **(2mks)**

……

……

(b) Explain **three** methods of testing the program for errors. **(3mks)**

……

……

……

(c) Name **two** of the third generation languages (3GLs). **(1mk)**

……

……..

(d) Distinguish between a compiler and interpreter. **(3mks)**

……

……

……

18. Study the spreadsheet below and answer the questions that follow

	A	B	C	D
1	**WESTERN COMPBOOK CENTER SALES**			
2	BOOK TITTLE	PRICE PER BOOK	BOOKS SOLD	
3	DBASE IV	400	145	
4	LOTUS FOR DUMMIES	460	15	
5	OFFICE WORD IN 3 DAYS	300	65	
6	LEARN C++ IN 3 DAYS	700	100	
7	TEACH YOURSELF PASCAL	700	200	
8	COMPUTER STUDIES	500	300	
9	THE CLEVER FOOL COMPUTER	300	10	
10				

i) Write down the formula that can be used to find the price of the most costly book. **(1mks)**

……

ii) Write down the formula that can be used to determine the total sales for the book titled COMPUTER STUDIES. **(1mk)**

……..

iii) Write down the formula that can be used to determine the average price of the books. **(1mks)**

……

iv) Write down the formula in cell **D6** that can be used to find the new price per book. If they went up by a percentage written in cell **B10** and the formula has to be entered only in cell **D3** then copied to other cells. **(1mk)**

……

v) Write down the output in D7 if B6 is 10%. **(1mk)**

……..

vi) State any **four** advantages of using an electronic spreadsheet as compared to a traditional worksheet. **(4mks)**

……..

19. (a) Describe **three** different ways a computer may store negative numbers. **(6mks)**

……

……

……

……

……

……

(b) Give the acronym name for the following **(3mks)**

i. BCD ……..

ii. ASCII ……...

iii. EBCDIC ……

……

(c) Define the term operating system **(1mk)**

……

……

(d) Describe any **four** functions of the operating system **(4mks)**

……

……

……

……

……

……

……

……

(e) Define the following terms as used in spreadsheet **(3mks)**

i. absolute referencing- ……

……..

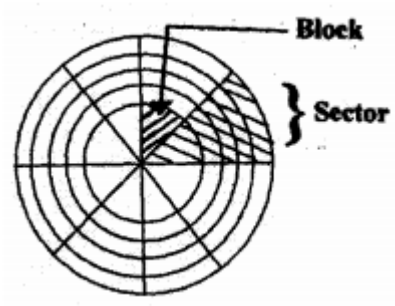
ii. Value- ……

……...

iii. Worksheet- ……

……..

Answers

question	category	Answer
1		*monitor(screen, vdu), printer, plotter, speakers,* ***√(1/2x4=2)***
2	*a* *b* *c* *d* *e*	• ***Disk formatting*** *is the process of preparing a data storage device such as a hard disk drive, solid-state drive, floppy disk or USB flash drive for initial use* • ***Disk Compression*** *is a term used to refer to compacting files on a storage media to save some disk space* • ***Backup*** *is a copy of files to a second medium (a disk or tape) as a precaution in case the first medium fails* • ***Partitioning*** *is the process of dividing memory or mass storage into isolated sections called partitions* • ***Fragmentation*** *refers to the condition of a disk in which files are divided into pieces scattered around the disk.* ***√(1x5=5marks)***
3		*a.* *b.* *c.* ***√(1x3=3mks)***
4		*COM ports are for serial communications while LPT ports are for parallel communication.* *COM ports are slow in communication while LPT parts are faster.* *COM ports have 9 pin holes while LPT ports have 25.* ***√(1X3=3MKS)***
5		***An Internet Service Provider (ISP)*** *is a company or organization that offers Internet access or an ISP is a server that offers internet services.* ***√(1X1=1MKS)***
6.		***Portability:*** *The ability to run a program in different platforms.* ***Modularity:*** *Ability of a program to be broken into smaller programs which handle specific tasks* ***√(1X2=2MKS)***
7		 ***√(1X2=2MKS)***
8	*a*	• *The scheduler decides which of the jobs is to be allocated to the CPU for processing.* • *Allocating CPU time to jobs.* • *Sequencing of jobs in a queue.* • *Prioritizing of tasks.* ***√(2MKS)***

	b	• *Command prompt/line interface is a form of interface between the operating system and the user in which the user types commands by using a special command language.* • *Menu driven interface operating system is a program that uses menus to present/list choices of commands and available options* • *GUI operating system display format to enable the user to choose commands, start programs and see lists of files and other options by pointing to pictorial representations (icons, WIMPS).* √***(2X3=6MKS)***
	c	*I. Firmware are language translators resident in ROM and used for immediate access by the user of the system. -Software on ROM or embedded permanently or semi-permanently. -Software buried on a microchip.* *II. Proprietary software is privately owned software and can only be used under conditions. -Needs a licence to be used.* √***(1X2=2MKS)***
	d	• *High processor speed.* • *High primary memory capacity.* • *high/enough secondary memory capacity.* • *high resolution output devices.* • *Data bus bandwidth.* √***(1X3=3MKS)***
9		*Dynamic storage stores data temporarily while Auxiliary storage stores data permanently* *Dynamic storage is directly accessible by the processor while Auxiliary storage is not directly accessible by the processor* *Dynamic storage has low storage capacity while Auxiliary storage has a high storage capacity* √***(1X1=1MKS)***
10		*=$M39+l$20* √***(2MKS)***
11	*a* *b*	*Is a separate image, object or graphic file not created in the program that is placed on a file and cannot be edited, it's permanent* *An object created with one application and embedded into a document created by another application. Embedding the object, rather than simply inserting or pasting it, ensures that the object retains its original format* *It's a facility that causes text/cursor to flow automatically from one textbox or page to the next when the first textbox/page is full* √***(1X2=2MKS)***
12		*They are indenting tools that increase and decrease indent in a page* √***(2=2MKS)***
13	*a* *b*	***An index*** *is a property of a field that is used to speed up access of data in a database.* ***A primary key*** *is a field that uniquely identifies records within a database.* √***(2=2MKS)*** *i. To reduce repetition of data entries items in a database.* *ii. To allow flexibility in manipulating databases.* √***(1X2=2MKS)***
14		*a. leads to improved flow of data that is valuable to the management.* *b. Leads to timely and accurate reporting of data.* *c. Reduction of paper cost.* *d. Saving on storage space.* √***(1/2X4=2MKS)***

15	*a*	*Improper set up can lead to spoiling the computer and at times crushing the whole system.* *Improper starting up and shutting down can lead to crushing of the hard disk.* √***(1X2=2MKS)***
	b	❖ *The quality of output* ❖ *The speed* ❖ *Compatibility* √***(1X2=2MKS)***
	c	*1. Flat file* *2. Network* *3. Hierarchical* *4. relational* √***(1/2X4=2MKS)***
16	*a*	● $(1*16^2)+ (1*16^1)+ (1*16^0)$ $256+16+1 = 273_{10}$ √***(3MKS)***
	b	● *i. . 111110_2* √***(2MKS)*** *ii. 10000_2* √***(2MKS)***
	c	● $(1*2^3)+ (1*2^2) + (0*2^1) + (1*2^0). (0*2^{-1})+ (1*2^{-2})$ $8+4+1+0.25=13.25_{10}$ √***(2MKS)***
	d	● $17_{10}=10001_2$ $28_{10}=101100_2$ $17_{10}=0010001_2$ $28_{10}=0101100_2$ 1st complement=11010011_2 2nd complement =11010100_2 $0010001_2 + 11010100_2 = (1)1100101_2$ √***(3MKS)***
	e	● $31_{10} = 11111_2$ $12_{10} = 1100_2$ 8 bit $31_{10} = 00011111_2$ $12_{10} = 00001100_2$ 1st Complement of 12_{10} $11110011_2 + 00011111_2 = (1)00010010_2$ √***(3MKS)*** Add an over flow bit $=00010011_2$ √***(3MKS)***
17	*a*	*i. ASP.Net* *ii. JavaScript,* *iii. VBScript* *iv. Hypertext Preprocessor* *v. scala* *v. ruby* √***(1/2x4=2MKS)***
	b.	*a. Dry running is a method of checking a program for errors by making the corrections on a paper before entering it in the program editor.* *b. Use of Test data. This a method where a program can be tested by inputting a set of values referred to as Test data, to produce predictable output.* *c. Use of debugging utilities. Built in utilities in the computer that can be run during translation to detect any syntax errors in the program.* *d. System Test with actual data. This is whereby the new program is run in parallel with the existing system for a short time so that results can be compared and adjustments made. In such cases, the system test is made using actual data.* *e. Structured Walk Through: It is an organized style of evaluating/reviewing a program by a team of other programmers, which then reports to the programming team.* √***(1x3=3MKS)***
	c	

	d	*Pascal,FORTAN,COBOL,BASIC,C,Ada* ***Interpreters*** • *Translates the source program one statement at a time* • *Translates the program each time it is run hence slower than compiling* • *Interpreted object code takes less memory compared to compiled program* ***Compilers*** • *Translates the entire source code at once before execution* • *Compiled program can be saved on storage media,hence executes faster than interpreted programs* • *Compiled programs require more memory as the objects are larger* √***(1x3=3MKS)***
18	*i* *ii* *iii* *iv* *v* *vi*	*=Max(c3:c9)* √***(1MKS)*** *=b8*c8* √***(1MKS)*** *=Average(b3:b9)* √***(1MKS)*** *=b6*b10* √***(1MKS)*** *770* √***(1MKS)*** *a. leads to improved flow of data that is valuable to the management.* *b. Leads to timely and accurate reporting of data.* *c. Reduction of paper cost.* *d. Saving on storage space.* √***(1x4=4MKS)***
19	*a* *b* *c* *d*	● *Sign and Magnitude - leading zero indicates positive number and a leading one indicates the number is negative* ● *Ones complement - the binary number is inverted i.e. the ones become zeros and the zeros become ones.* ● *Twos Complement - the binary number is converted first to ones complement and then a one is added to the final answer.* √***(2x3=3MKS)*** *i) BCD - Binary Coded Decimal* *ii) ASCII - American Standard Code for Information Interchange* *iii) EBCDIC - Extended Binary Coded Decimal Interchange Code* √***(1x3=3MKS)*** ***the operating system*** *is a suite of programs that manage the computer resources such as I/O transfers, memory management and CPU time.* √***(1MKS)*** ***1. Processor Scheduling*** *- The operating system allocates each job waiting for execution, processor time at each give interval.* ***2. Resource allocation*** *- Each available resource is given a unique identification number called an interrupt request (IRQ). The OS uses the IRQ number to identify the resources being requested.* ***3. Memory management*** *- The operating system determines which task remains can be held by the memory and which one can be suspended to the secondary storage devices , output and to the processor.* ***4. Input/output management*** *–The OS coordinates between various I/O (input/output) and other peripheral devices such as auxiliary storage devices, making sure that data is transmitted securely.* ***5. Communication control and management*** *- This involves management of various communication devices and providing an environment within which communication channels operate.* ***6. Error handling*** *- The OS has many ways of alerting the user of errors that may arise out of illegal operations, hardware or software failure. Most OS express what the error is, and where possible make suggestions on how to correct the error.*

	e	***7. Process management*** *-all processes from start to shut down, booting, open, save, install, copy, print* ***8. File management*** *- this involves naming of file and folders, locations, attributes (size, type, modified, protection, password etc.* ***9. Security management*** *-this involves Virus management, Alert messages, Dialogue boxes, Firewall, passwords/Access protection etc.* ***10. Interrupt handling*** *- An interrupt is a break from the normal sequential processing of instructions in a program. A critical request causes the processor to stop executing the current process to attend to it, before returning the control back to the process that was initially interrupted.* √***(1x4=4MKS)*** *i.* ***absolute referencing****-this are cell referencing that always refers to specific location of a work sheet if copied from one cell to another* *ii.* ***Value****- this are numbers that can be manipulated mathematically* *iii.* ***Worksheet****-consists of cells ,rows columns* √***(1x3=3MKS)***