MARANDA HIGH SCHOOL
POST MOCK EXAMINATIONS - 2021
COMPUTER PAPER1 MARKING SCHEME

Q	Description	Marks Awarded
1.	A sales man in Moyale uses Electronic mail to communicate with Head office in Nairobi. Mention three item that the Sales man must have to use this facility ▪ **Computer** ▪ **Internet connectivity** ▪ **Browser** ▪ **Email address for sender and Receiver**	***Award 1mark each max 3***
2.	One of the functions of computers is to process and provide storage for information. Describe how doctors and nurse would benefit from the use of computers in hospitals ▪ **Use of computer software to store diagnosis data and patient records** ▪ **Use of laser technology to perform surgery** ▪ **Telemedicine services for patients acts as a reminder** ▪ **Communication using sms, emails, tweeter , WhatsApp** ▪ **Ultrasound and MRI services are supported by computer platform** ***Note that full marks will be awarded when the candidate includes the technology without technology award zero***	***Award 1mark each max 3***
3.	Distinguish between Simulation and Virtual reality **Simulation is the science of representing the behavior of a real life situation by using computerized model while Virtual reality refer to a condition in which a person becomes psychologically immersed in an artificial environment generated by a computer**	***Award 1mark each max 2***
4.	Mention three main components of an expert system ▪ **Knowledgebase** ▪ **User interface** ▪ **Inference engine**	***Award 1mark each max 3***
5.	At times computer give unexpected results when performing operations in arithmetic. Explain what might have happened if the error message "Arithmetic Overflow" appear on the screen ▪ **It is a type of computational error that occur when the results from a calculation is too large to be stored in the allocated memory space**	***Award 2marks max 3***
6.	Antistatic Bag, Antistatic wrist member , screw driver and pliers are tools required during basic computer setup and cabling .Briefly describe the functions of Antistatic wrest member and pliers ▪ **Antistatic wrest member is used to discharge static electricity** ▪ **Pliers is used for holding objects firmly**	***Award 1mark each max 2***
7.	James wanted to purchase genuine software to be installed in his personal computer. Name three items that must accompany the software to proof that the software is genuine, original and from a trustworthy source ▪ **Certificate of authenticity** ▪ **Software License** ▪ **Genuine Installation key**	***Award 1mark each max 3***
8.	State the difference between Make table Query and Append query in Databases ▪ **Make table query creates a new table from a dynaset while Append query adds data in a table from one or more table**	***Award 2marks max2***

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9.	Mention three causes of syntax errors in a computer program ▪ **Grammatical error** ▪ **Punctuations** ▪ **Misspelling of reserve words and variable** ▪ **Improper naming**	***Award 1mark each max 3***
10.	Tom a student from Klemo Secondary school sat for his KCSE in the year 2018 and passed well but did not join the university due to financial problems. In the year 2020 he was advised by a friend to a pursue course under the TVET program. List any three ICT related courses that Tom may apply for ▪ **Diploma in Computer studies** ▪ **Diploma in ICT** ▪ **Certificate in ICT**	***Award 1mark each max 3***
11.	Kipasi Secondary school upgraded their computer lab by installing modern computers. Mention how the school management will control theft of hardware and software from the lab ▪ **Employee security officers** ▪ **Install CCTV camera** ▪ **Set alarming systems** ▪ **Use swipe cards** ▪ **Biometric systems**	***Award 1mark each max 3***
12.	Explain the following terms as used in Desktop publishing ▪ **Overflow is a situation where the line of text place in a textbox cannot be accommodated in the textbox** ▪ **Master page contain text and graphic elements that will appear on all pages of a publication**	***Award 1mark each max 2***
13.	Mention three sources of graphic objects with reference to Word processors ▪ **Microsoft clip gallery** ▪ **Scanner/camera** ▪ **Import from another file.** ▪ **Drawing using drawing tools available in M/s word.**	***Award 1mark each max 3***
14.	Dama a secretary at Jusa Secondary carries out her daily duties using computer and suffered from wrist strain. State two ways she would reduce wrist pain ▪ **Taking regular breaks** ▪ **Use ergonomic keyboard** ▪ **Use standard furniture**	***Award 1mark each max 3***
15.	Mr. Baraka games teacher at Chianda High school wants to invites several schools for Hockey tournament .He was advised to use mail merging technique to create invitation letters for the respective schools identified. State three benefits of this technique ▪ **Produce uniform format for all the letter** ▪ **Save time Only one letter needs to be created, as the rest are automatically generated** ▪ **Pass accurate inform to all the recipients** ▪ **The standard letter/template can be saved and reused.**	***Award 1mark each max 3***

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16. (i)	Mention three limitations of machine language ▪ **Machine dependent** ▪ **Difficult and cumbersome to use and learn/Not user-friendly** ▪ **Require highly trained expert to develop and maintain the programs** ▪ **Difficult to debug programs**	*Award 1mark each max 3*
(ii)	Describe three methods usually used by a computer programmer to test a program ▪ **Desk checking involves going through the program while on paper before entering it in the program editor window.** ▪ **Using debugging facilities these are utilities provided by the programming language that assist programmers in detecting syntax errors** ▪ **Use test data this involves carrying out a trial run on the new program using a set of test data to check whether the system will give out the desired output when fed with the correct data**	*Award 2marks max3*
	Study the following pseudo and answer the questions that follow **1. Start** **2. Set count =0** **3. If count is less than 5 do** **4. Get value 1 and value 2** **5. If value 1 > Value2 Then** **6. Maximum =Value 1** **7. Else If Value 1< Value 2 Then** **8. Maximum =Value 2** **9. Else Go to 10** **10. Display Maximum** **11. Get the count and add one** **12. Stop** State the purpose of the pseudo code ▪ **The pseudo code will prompt the user to enter value 1 and 2 then compare the two values and print the maximum value or the largest** ▪ **This activity will be repeated provide the value of Count is less than 5**	

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	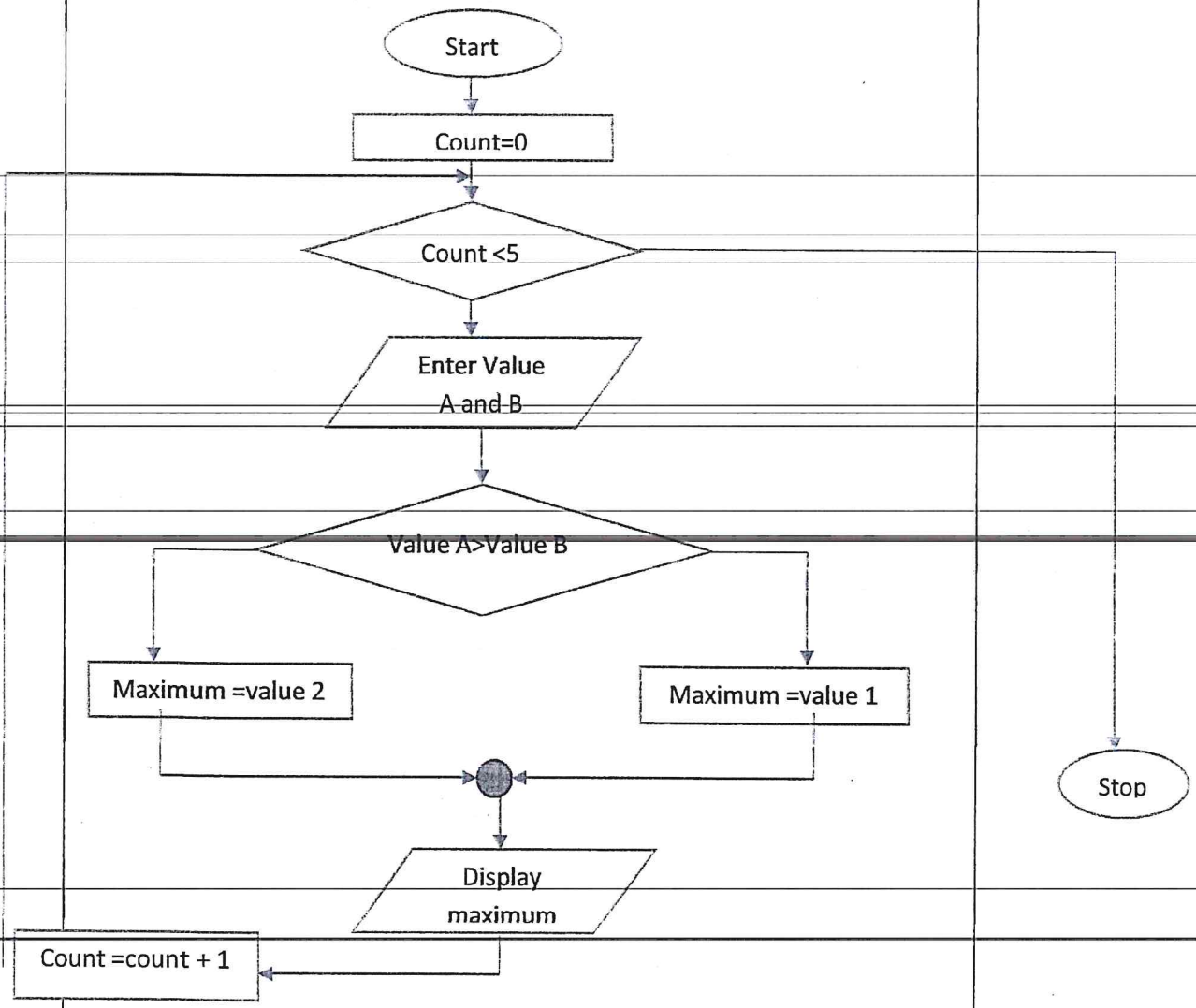	
17.	Give two reasons to just the use of binary number system in computing ▪ **Complexity of the natural language** ▪ **Binary system can represent all forms of data** ▪ **Devices that use binary system are reliable** ▪ **Binary system based devices are energy efficient and small in size**	*Award 1mark each max 2*
	Convert (a) 110.101_2 to decimal **$(2^2x1)+(2^1x1)+(2^0x0)$** **4+2+0 =6** **$0.101 = (0.5+0+0.125) +6 = 6.875_{10}$**	*M1 1mark* *A 1mark*

Q	Description	Marks Awarded
	(b) 1AH to Octal **1 = 0001 A= 1010** **00 011 010** **0 3 2** **32_8**	*M1 1mark* *A 1mark*
	Using twos compliment show how the arithmetic below could be carried out on a eight bit notation computer $(+46_{10})+(-29_{10})$ **46 = 101110** **29 = 11101** **00011101** **11100010+1** **11100011+00101110 = 100010001**	*M1 1mark* *M2 1mark* *A 1mark*
	Get the value of X_2 in this expression below $X_2+7_8 = 9H$ **X_2 = 1001-0111** **$X_2 = 0010_2$**	*M1 1mark* *M2 1mark* *A 1mark*
	1101_2 is a binary representation of a negative number. Workout the likely positive equivalents in base ten **First Assumption is prefixing a sign bit to the number therefore the last digit is a sign bit** **The number is 101= 4+1** **5** **The second assumption is the number 1101 is a one complement of a positive number therefore recomplement** **1101 = 0010** **2** **The third assumption is the number 1101 is a two complement of a positive number therefore subtract one then recomplement** **1101-1 =1100** **11 = 3**	*Award 1mark each max 3*
18.	Student database comprises of students details table and fee received **Students' Details Table** **First Name** **Middle Name** **Admission Number** **Course Code** **Fee Received table** **Date** **Amount** **ReceiptNo** **Mode of Payment** (a) State the primary key for each table ▪ **Admission Number** ▪ **Receipt Number** (b) Give the most appropriate data type for **Receipt No** and **Mode of payment** ▪ **ReceiptNo – Text**	*Award 1mark each max 2* *Award 1mark each max 2*

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	▪ **Mode of payment – Lookup wizard/Text** (c) Suggest how the date column can be validated to accept today's and earlier dates only ▪ **<=Date ()** (d) Describe how a relationship between the two tables can be established ▪ **The relationship can be established by link Admission number and receipt No** ▪ **The relationship created will be One to One relationship** ▪ **Therefore one student is entitled to one receipt number**	*Award 1mark max 1* *Award 1mark each max 3*
	A student was typing a document using word processor. (a) She typed the word school as SHOOL. Describe how she would correct the error ▪ **Using spelling and grammar checkers** ▪ **By creating the insertion point between S and H then type letter C** (a) When she tries to type letter C between letter S and H, letter H was deleted which to her was wrong .Explain the cause of this problem ▪ **The type mode is set to type over mode therefore it will automatically replace the existing text by deleting them**	*Award 1mark each max 2* *Award 2marks max 2*
	Mention any three formulas that be added to Ms-Word table to perform simple calculations ▪ **Average** ▪ **Sum** ▪ **Count** ▪ **Product**	*Award 1mark each max 3*
19. (i)	List three approaches used in Rapid Application Development during system development ▪ **Prototyping** ▪ **JAD** ▪ **SWAT**	*Award 1mark each max 3*
(ii)	What is system entropy ▪ **Refer to how the system become useless over time with reference to functionality**	*Award 1mark each max 1*
iii)	Explain four factors to consider when designing a file during requirement specification ▪ **Key attribute** ▪ **Types of data** ▪ **Field length** ▪ **Back up and recovery**	*Award 1mark each max 4*
iv)	Briefly describe three types of change over strategies a system analyst may adopt during implementation; ▪ **Direct changeover** ▪ **Parallel** ▪ **Phase** ▪ **Pilot**	*Award 1mark each max 4*