TEACHERS' RESOURCE UNIT
TRU-RIP-STA
MOCK EXAMS
CAAP. BAMENDA
NORTH WEST REGION

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MARCH 2022

The Teachers' Resource Unit and the Regional Inspectorate of Pedagogy, in collaboration with **COSTA**	SUBJECT CODE NUMBER **0595**	PAPER NUMBER **2**
GENERAL CERTIFICATE OF EDUCATION AND INTERMEDIATE TECHNICAL AND VOCATIONAL EDUCATION REGIONAL MOCK EXAMINATION	SUBJECT TITLE **COMPUTER SCIENCE**	
ORDINARY LEVEL		

Time Allowed: **TWO HOURS**
INSTRUCTIONS TO CANDIDATES
Mobile phones are **NOT ALLOWED** in the examination room.

❖ *Answer any Five questions.*

❖ *All questions carry 20 marks each. For your guidance, the appropriate mark for each part of a question is indicated in brackets.*

❖ *You are reminded of the necessity for good English and orderly presentation in your answers.*

❖ *In calculations, you are advised to show all the steps in your working, giving your answer at each stage.*

❖ *Calculators are allowed.*

1. **(a)** Briefly explain the following:
   i) Ergonomics
   ii) Repetitive Strain Injury
   iii) Computer Vision Syndrome
   iv) Green Computing **(10 Marks)**
   v) Encryption

   (b) Consider the Boolean equation: $P = \bar{A}.B + A.\bar{B}$ **(3 Marks)**
   i) Deduce the digital circuit from the Boolean equation above
   ii) Copy and Complete the corresponding truth table below

A	B	$\bar{A}$	$\bar{B}$	$\bar{A}.B$	$A.\bar{B}$	P
0	0					
0	1					
1	0					
1	1					

(5 Marks)
(2 Marks)

   iii) What is a logic gate?

2. **(a)** Distinguish between the following;
   i) Parallel and serial transmission
   ii) Synchronous and asynchronous transmission **(6 Marks)**
   iii) Half duplex and Full duplex transmission

   b) You are requested by the Principal of your school to make recommendations for the types and specifications of computers for the school laboratory. Name three characteristics of the system unit you will recommend and for each, say how each of the characteristics is important to the proper functioning of the computers. **(6 Marks)**

   c) State and briefly explain activities that take place within the four stages involved in the machine instruction cycle.
   (8 Marks)

3. **a)** i) Establish the octal equivalent for 11011111101_2. **(3 Marks)**
   ii) In the ASCII coding system, the decimal representation of the number 63 is 00111111. Deduce the ASCII representation of the decimal number 66. **(3 Marks)**
   iii) Evaluate $110011_2 - 1101_2 + 10011_2$ **(3 Marks)**

   b) In a software development project a team identify various activity to be carried out as indicated in the table below:

Task	Description	Order	Duration (week)
A	Specification	To be completed first	1
B	Write test plans	Start when A is completed	3
C	Software design	Start when A is completed	2
D	Software coding	Start when B is completed	3
E	Developer test	Start when C is completed	3
F	Software test	Start when D and E are completed	4

   i) Copy and complete the critical Path method (CPM) below. **(6 Marks)**
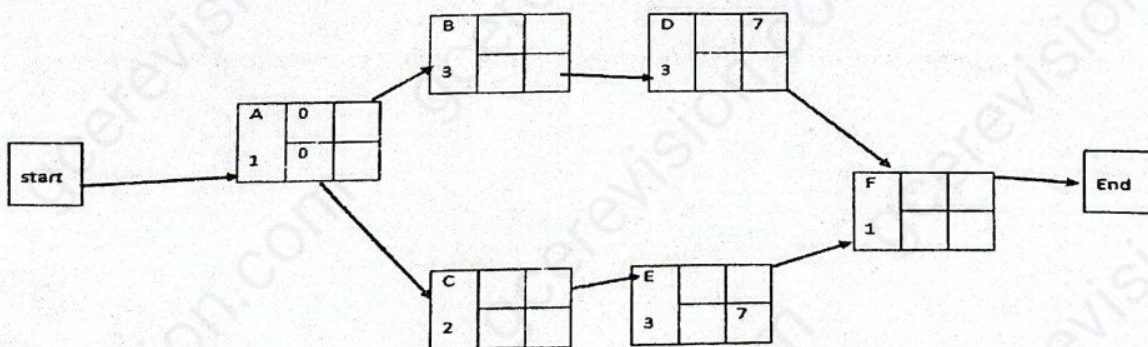
   ii) From the diagram which path is the critical path **(2 Marks)**
   iii) What is the slack time for activity E and what does it mean? **(2 Marks)**
   iv) What is the project duration? **(1 Marks)**

4. a) i) What is a database? (2 Marks)

  ii) Briefly explain the following as used in DBMS

- Normalization (2 Marks)
- Attributes (2 Marks)
- Data Redundancy (2 Marks)

b) i) What is the difference between network architecture and network Topology? (2 Marks)

ii) Draw a full mesh network of six computers (4 Marks)

iii) What is the difference between an intranet and an extranet? (2 Marks)

c) How many diskettes of capacity 1.44MB will be able to store data from a DVD of a capacity of 4.7GB? (4 Marks)

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5. Most people turn to love Windows operating system software than Linux operating system software. Linux is an open source operating system.

a) i) What is an open source software? (2 Marks)

  ii) What is a system software? (2 Marks)

  iii) State 4 functions of an operating system software? (4 Marks)

b) Explain the following in relation to programming language

  i) Compiler. (2 Marks)

  ii) Machine Language. (2 Marks)

  iii) Interpreter. (2 Marks)

c) i) What is e-commerce? (2 Marks)

  ii) State two advantage and two disadvantage of e- commerce (4 Marks)

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6. a) Briefly explain two activities in each of the following phases in the SDLC

  i) Analysis (2 Marks)

  ii) Design (2 Marks)

  iii) Testing (2 Marks)

  iv) Maintenance (2 Marks)

b) The CPU is usually considered as the "brain" of the computer.

  i) Draw a labeled diagram of the CPU and it basic components (4 Marks)

  ii) State and explain briefly three CPU buses (6 Marks)

c) What is social media? (2 Marks)

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7. a) (i) What is an algorithm? (2 Marks)

  (ii) List 4 characteristics of a good algorithm (4 Marks)

b) The algorithm below is created to determine a student's average and indicate whether he/she is successful or not.

```
1.  START
2.  Use variables mid-term , final  and average
3.  INPUT midterm and final
4.  Average=(midterm + final)/2
5.  IF( average < 60) THEN
6.  Print "FAIL"
7.  else
8.  Print "SUCCESS"
9.  STOP
```

i) What is a control structure? (2 Marks)

ii) Identify and state the line numbers of the control structures in the above algorithm. (4 Marks)

ii) Draw a flow chart to represent the algorithm. (6 Marks)

iii) What will be the output if the midterm mark is 35 and final mark is 25 (2 Marks)

GOOD LUCK!

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TURN OVER

3