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

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MINISTRY OF SECONDARY EDUCATION

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MARCH 2023

The Teachers' Resource Unit and the Regional Inspectorate of Pedagogy, in collaboration with Computer Science Teachers' Association(COSTA)	SUBJECT CODE NUMBER **0796**	PAPER NUMBER **2**
GENERAL CERTIFICATE OF EDUCATION AND INTERMEDIATE TECHNICAL AND VOCATIONAL EDUCATION REGIONAL MOCK EXAMINATION	**SUBJECT TITLE INFORMATION AND COMMUNICATION TECHNOLOGY (ICT)**	
ADVANCED LEVEL		

Time Allowed: **TWO and a half hours**

INSTRUCTIONS TO CANDIDATES

Mobile phones are **NOT ALLOWED** in the examination room.

- *Answer any SIX questions.*
- *All questions carry 17 marks each. For your guidance, the approximate 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.

1. (i) (a) Explain how the main memory is used during the machine cycle. (2marks)
(b) State the role of the ALU during processing? (2marks)
(c) What is a control system (2marks)
(d) Describe two domains of application of a control system (2marks)
(ii) (a) Differentiate between Star topology and Mesh topology (2marks)
(b) What is fault tolerance of a network?
(c) Between Star topology and mesh topology, which is more fault tolerant, give reasons for your answer (2mark)

(iii) Briefly explain the following data security measures and state two areas of application
(a) password (1marks)
(b) firewall (1marks)
(c) data encryption (1marks)

2. (i) Explain the following Programming Terms with two examples each:
(a) Control structures (2marks)
(b) Syntax error (2marks)
(c) IDE (2marks)
(d) Variable (2marks)

(ii) Convert
(a) 256_8 to binary (2marks)
(b) 11011.11_2 to denary (2marks)
(iii) (a) State De Morgan's Second law (2marks)
(b) Using a truth table, proof the stated law in (a) (3marks)

3. (i) The SDLC is used to develop and implement an information system
(a) State two activities in the analysis phase of the SDLC (2marks)
(b) Describe two conversion methods use to implement a system. For one of the methods given above, state one advantage and one disadvantage (4marks)
(c) Explain why feedback is important in the maintenance phase of the SDLC (2marks)
(d) Why is it necessary to carry out feasibility studies in the development of a new system (2marks)
(ii) Briefly explain the use of the following input technologies and cite situations in which each can be used.
(a) Bar code reader (1mark)
(b) Optical character reader (1mark)
(c) Automatic speech recognition (1mark)
(iii) Differentiate between data integrity and data confidentiality (1mark)
(iv) State and describe two data verification techniques (2marks)
(v) Differentiate between System software and application software (1mark)

4. (i) (a) State a difference between Flat file database and Relational Database (2marks)
(b) What is the function of Input mask on a Database Table (2marks)
(c) When do we say a table is in 2NF (2marks)
(ii) (a) Define PERT and give its role in project management (2marks)
(b) What is a dependent task (2marks)
(iii) Explain the following system development terminologies.
(a) System Testing (2marks)
(b) Acceptance Testing (2marks)

(iv) Expand the following acronyms giving explanations of each
(a) BCD (1mark)
(b) ASCII (1mark)
(c) EBCDIC (1mark)

5. (i) The following project was executed in a company. In order to properly evaluate the project, various tasks carried out were recorded with durations of execution. Study the table below and respond to the following questions:

TASK	DURATION	PREDECESOR
A	6	-
B	5	A
C	6	B
D	8	B
E	6	AC
F	3	E

(a) Draft a PERT chart for the project above. (3marks)
(b) Identify the critical path. (1marks)
(c) Calculate the duration of the project. (2marks)

(ii)
(a) What is an Operating System (2marks)
(b) Differentiate between Command Line Interface and Graphical User Interface (3marks)
(c) State three functions of an operating system (3marks)

(iii) State and explain three methods used to secure data in a computer network (3marks)

6. (i) (a) Differentiate between data security and Data Protection (3marks)
(b) Describe two domains where Modeling and TPS can be used (4 marks)

(ii) State and explain one major use of the internet, which is peculiar to each of the following fields
(a) Secondary Education (2 marks)
(b) Agriculture (2 marks)
(d) Transport (2 marks)

(iii) (a) In relation to IS, what is a stock control system? (2 marks)
(b) State three main features of an expert system (2 marks)

7. (i) Explain the following concepts as used in algorithm
(a) Algorithm (1marks)
(b) Efficiency of an algorithm (1marks)

(ii) Consider the algorithm below

Line1: start
Line 2: get three numbers: a, b, c
*Line 3: compute a*b+c*
Line 4: multiply the results of line 3 by 10
Line 5: store the results of line4 in y
Line 6: display y
Line 7: stop

(a) In what format is the algorithm above represented? (1mark)
(b) Draw a flow chat for the algorithm (3marks)
(c) Name the type of control structure used in the algorithm (1mark)
(d) Differentiate between procedural programming and non-procedural programming (2marks)

(iii) Explain the following online electronic services giving one advantage and one disadvantage for each
(a) e-government (2marks)
(b) e-commerce (2marks)

(iv) (a) What is a social network? Give an example (2marks)
(b) Define Computer Assisted Learning (CAL) (2mark)