**NAME: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ ADM NO: \_\_\_\_\_\_\_\_\_\_\_\_CLASS:\_\_\_\_\_\_\_\_\_\_**

**DATE: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ SIGN: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**COMPUTER STUDIES**

**FORM THREE**

**MARKING SCHEME**

**TERM 1, 2024**

**INSTRUCTIONS: (Answer all the questions) TIME: (1h 30min)**

1. With the aid of a diagram differentiate between analog and digital data. 6mks

**Digital computers process data that is in discrete (binary) form while analog computers process data that is continuous (analog) in nature.**

1. Define the following terms
2. Amplitude 3mks

**This is the maximum displacement that the waveform of an electrical signal can attain.**

1. Frequency 3mks

**This is the number of cycles (3600) made by the signal in one second. It is measured in units called Hertz(Hz)**

1. Periodic time 3mks

**This is the time taken by a signal to complete one cycle.**

1. Distinguish between
2. Byte and nibble 2mks

**Byte is a group of bits (often 8) used to represent a character. While a nibble refers to half of a byte usually a series of 4 bits.**

1. Convert the following base two numbers into denary (base 10) numbers. 18mks
2. 01012
3. 11112
4. 101011011102
5. 101111112
6. 10110012
7. 1110001112
8. Using the place value and long division methods convert each of the following base 10 numbers to their binary equivalents. 18mks
9. 1010
10. 4310
11. 36510
12. 51210
13. 14310
14. 95410