CRAWFORD UNIVERSITY FAITH CITY, IGBESA
COLLEGE OF NATURAL AND APPLIED SCIENCES
DEPARTMENT OF COMPUTER AND MATHEMATICAL SCIENCES
RAIN SEMESTER EXAMINATION **SESSION: 2020/21**

COURSE CODE: CSC 308
COURSE TITLE: COMPUTER HARDWARE AND EMBEDDED SYSTEMS
TIME: 3HOURS
INSTRUCTIONS: ANSWER 4 QUESTIONS ONLY

1(a) Write short note on the followings terminologies as used in computer hardware and embedded system
(i) Microcomputer (ii) RISC (iii) CISC (3mks)
(b) Enumerate the core steps of embedded system design process (3mks)
(c) Describe the application areas of embedded system. (4mks)
(d) With the aid of a diagram show the general architecture of a microcomputer. (5mks)

2(a) Explain the three technologies required for embedded system development. (4.5mks)
(b) Enumerate the core steps of embedded system development. (3mks)
(c) Write short notes on the following embedded system instruction set:
(ii) Data transfer (ii) Flow control (iii) Arithmetic and logic. (3mks)
(d) Describe the categories of Embedded System (4.5mks)

3(a) Describe the term 'Embedded System'. (2mks)
(b)With the aid of a diagram show the major components of embedded system. (5mks)
(c) Enumerate any six characteristics of embedded system. (3mks)
(d) Explain all the four types of embedded System processors (5mks)

4(a) Describe any five examples of embedded system (5mks)
(b) With the aid of a diagram explain the major components of embedded system hardware components. (3mks)
(c) Distinguish between microcontroller and microprocessor (3mks)
(d) Explain the major components of a microcomputer. (4mks)

5(a) Explain any three embedded system software maintainability challenges (4.5mks)
(b) With the aid of a diagram explain the major components of embedded system software. (4mks)
(c) Enumerate the major embedded system design constraints. (4mks)
(d) Enumerate the main aspect of embedded system application development (2.5mks)

6(a) With the aid of a diagram show the Embedded System Life Cycle. (5mks)
(b) Explain the various types of memory found in embedded system. (3mks)
(c) What are the functions of the following embedded system hardware
(i) Power supply (ii) interrupt controller (iii) oscillator (4.5mks)
(d) Enumerate the ways of designing a good embedded system processor (2.5mks)