QP CODE 2053516605 Reg. No

DMI-ST. EUGENE UNIVERSITY

ZAMBIA

DEGREE EXAMINATION – JUNE 2024

Semester: V **351NS66 INTERNET OF THINGS**

Time: 3:00 Hours **Max. Marks: 100**

Answer any FIVE Questions (5 x 20 = 100 Marks)

1. a) What is Internet of Things (IOT)? Explain the role of "Things" and "Internet" in IOT. **(5 Marks)**
   b) What is Machine to Machine (M2M) communication? What are the differences between IOT and M2M communication? **(5 Marks)**
   c) Explain in detail the advantages and disadvantages of IOT. **(10 Marks)**
2. a) Explain one M2M IOT standardized architecture. **(8 Marks)**
   b) Write short notes on Supervisory Control and Data Acquisition (SCADA). **(6 Marks)**
   c) Explain the key advantages of Internet Protocol. **(6 Marks)**
3. a) What is the role of cloud computing in IOT. **(4 Marks)**
   b) Explain in detail different cloud service models used in IOT. **(8 Marks)**
   c) How Internet addresses (IPV6) might Affect the development and implementation of IOT? **(4 Marks)**
   d) Explain the unified multitier wot architecture. **(4 Marks)**
4. a) How do integrated billing solutions influence the adoption and growth of IoT business models? Provide examples to illustrate their impact. **(5 Marks)**
   b) Compare two business models for IoT, highlighting how network dynamics and information cascades shape their success. **(7 Marks)**
   c) What role do network effects and cascading behavior play in designing Successful IoT business models? **(8 Marks)**
5. a) What is the primary objective of commercial building automation today? **(6 Marks)**
   b) Outline the differences between phase one and phase two of commercial building automation. **(7 Marks)**

c) How does the future phase of commercial building automation enhance building efficiency compared to today? **(7 Marks)**

6) a) Define Sensors, how are the sensors categorized based upon its role? **(8 Marks)**

b) What are Actuators? How are they different from Sensors?**(4 Marks)**

c) With a neat diagram, explain IoT architecture. **(8 Marks)**

7. a) Outline the essential components of an IoT platform design methodology, and identify challenges in integrating physical devices? **(6 Marks)**

b) How can structural models of network dynamics predict information cascades and small-world phenomena in IoT networks? Provide real-world examples. **(6 Marks)**

c) How do network effects impact IoT platform design, and what strategies can ensure stable growth? **(8 Marks)**