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**G. VENKATASWAMY NAIDU COLLEGE (AUTONOMOUS), KOVILPATTI – 628 502.**



**UG DEGREE END SEMESTER EXAMINATIONS - APRIL 2025.**

(For those admitted in June 2021 and later)

**PROGRAMME AND BRANCH: B.Sc., ELECTRONICS**

SEM	CATEGORY	COMPONENT	COURSE CODE	COURSE TITLE
V	PART-III	CORE	U21EL507	INTERNET OF THINGS

**Date & Session: 28.04.2025/FN**

**Time :3 hours**

**Maximum: 75 Marks**

Course Outcome	Bloom's K-level	Q. No.	<b>SECTION – A (10 X 1 = 10 Marks)</b> <b>Answer ALL Questions.</b>
CO1	K1	1.	Which of the following is not an IoT device? a) Laptop                      b) Table                      c) Arduino                      d) Tablet
CO1	K2	2.	Which layer is used for wireless connection in IoT devices? a) Application layer                      b) Network layer c) Data link layer                      d) Transport layer
CO2	K1	3.	What is the microcontroller used in Arduino UNO? a) ATmega2560                      b) ATmega328p c) ATmega32114                      d) AT91SAM3x8E
CO2	K2	4.	What is the full form of the I2C Protocol? a) Inter-Integrated Circuit                      b) Intra-Integrated Circuit c) Integrated-Inter Circuit                      d) Infinite-Integrated Circuit
CO3	K1	5.	Which sensor is LM35? a) Pressure sensor                      b) Temperature sensor c) Humidity sensor                      d) Touch sensor
CO3	K2	6.	What kind of waves does the Ultrasonic Sensor work on? a) Gas                      b) Sound                      c) Heat                      d) Light
CO4	K1	7.	What is ESP8266? a) Board                      b) Sensor                      c) WIFI module                      d) USB cable
CO4	K2	8.	Programs that request data from servers is called. a) users                      b) clients                      c) hosts                      d) programs
CO5	K1	9.	Show the signals are there in the SPI protocol? a) five signals                      b) six signals                      c) nine signals                      d) zero signals
CO5	K2	10.	Select the M2M communication protocol. a) I <sup>2</sup> C                      b) SPI                      c) IEEE 802.11                      d) MQTT
Course Outcome	Bloom's K-level	Q. No.	<b>SECTION – B (5 X 5 = 25 Marks)</b> <b>Answer ALL Questions choosing either (a) or (b)</b>
CO1	K3	11a.	What is the Internet of Things (IoT), and how does it impact daily life? <b>(OR)</b>
CO1	K3	11b.	How does IoT enable automation and data-driven decision-making?
CO2	K3	12a.	What are the steps to install the Arduino IDE on a computer? <b>(OR)</b>
CO2	K3	12b.	Explain the purpose of the serial monitor in Arduino IDE.

CO3	K4	13a.	Define a sensor, and how does it work? <b>(OR)</b>
CO3	K4	13b.	What is the role of an LDR (Light Dependent Resistor) in light sensing?
CO4	K4	14a.	What is wireless networking, and how does it differ from wired networks? <b>(OR)</b>
CO4	K4	14b.	Compare NodeMCU and Arduino Uno in terms of functionality and communication.
CO5	K5	15a.	Examine the benefits and applications of cloud computing. <b>(OR)</b>
CO5	K5	15b.	Describe Machine-to-Machine (M2M) communication.

Course Outcome	Bloom's K-level	Q. No.	<p align="center"><b>SECTION – C (5 X 8 = 40 Marks)</b>  <b>Answer <u>ALL</u> Questions choosing either (a) or (b)</b></p>
CO1	K3	16a.	Sketch the architecture of IoT and explain its protocol in detail. <b>(OR)</b>
CO1	K3	16b.	Enumerate the IoT communication technologies.
CO2	K4	17a.	Sketch the Arduino uno architecture and explain its arduino IDE environment. <b>(OR)</b>
CO2	K4	17b.	Demonstrate the interfacing Arduino with LCD and neat Sketch.
CO3	K4	18a.	Distinguish between analog and digital sensors. <b>(OR)</b>
CO3	K4	18b.	What is a relay switch, and why is it used in Arduino projects?
CO4	K5	19a.	Illustrate the features and applications of NodeMCU. <b>(OR)</b>
CO4	K5	19b.	Explain the various Wi-Fi library and web server.
CO5	K5	20a.	Discuss the visualization concept and cloud architecture with neat diagram. <b>(OR)</b>
CO5	K5	20b.	Describe the interfacing of ESP8266 with web services.