This document is a part of Main Course File	Document No.: CFM – 8

SARDAR VALLABHBHAI PATEL EDUCATION SOCIETY
MANAGED

N. G. PATEL POLYTECHNIC

COMPUTER ENGINEERING DEPARTMENT

FORMAT FOR ASSIGNMENTS

Course Name (With Code): Fundamentals of IoT(4360703)

Semester / Year: Sixth/Third

Assignment Number: 3

Assignment CO Number: 4360703.3

Sr. No.	Questions related to Course Outcomes
Part – A	**Questions carrying 2 Marks**
1	Explain data types in Arduino.
2	List out operators of Arduino.
Part – B	**Questions carrying 3 Marks**
1	Write a code to blink LED ON and OFF.
2	Explain pinMode(), digitalRead() and digitalWrite () functions of Arduino.
3	Demonstrate how to define user defined function in Arduino
Part – C	**Questions carrying 4 Marks**
1	Explain I/O functions with an example.
2	Explain char functions with an example.
3	Explain Math functions with an example.
Part – D	**Questions carrying 7 Marks**
1	Draw and explain Arduino architecture.

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FORMAT FOR ASSIGNMENTS

Course Name (With Code): Fundamentals of IoT (4360703)

Semester / Year: Sixth/Third

Assignment Number: 4

Assignment CO Number: 4360703.4

Sr. No.	Questions related to Course Outcomes
Part – A	**Questions carrying 2 Marks**
1	List out Messaging protocols.
2	Define Topology. List out all topologies in sensor networks.
Part – B	**Questions carrying 3 Marks**
1	Define point-to-point topology. State its advantages and disadvantages
2	List the key features of BLE that make it ideal for IoT applications in low-power devices.
3	Differentiate CoAP and MQTT.
Part – C	**Questions carrying 4 Marks**
1	Explain Constrained Application Protocol (COAP) in detail.
2	List the advantages of Li-Fi over conventional wireless communication technologies for IoT connectivity.
3	Discuss MQTT protocol in Detail.
Part – D	**Questions carrying 7 Marks**
1	Define Topology. List out all topologies in sensor networks and explain any one in detail.

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FORMAT FOR ASSIGNMENTS

Course Name (With Code): Fundamentals of IoT(4360703)

Semester / Year: Sixth/Third

Assignment Number: 5

Assignment CO Number: 4360703.5

Sr. No.	Questions related to Course Outcomes
Part – D	**Questions carrying 7 Marks**
1	Explain smart parking IOT application with diagram.
2	Explain agriculture system of IOT with diagram
3	Explain Smart Home Automation system based on IOT with diagram.

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COMPUTER ENGINEERING DEPARTMENT

FORMAT FOR ASSIGNMENTS

Course Name (With Code): Fundamentals of IoT (4360703)

Semester / Year: Sixth/Third

Assignment Number: 1

Assignment CO Number: 4360703.1

Sr. No.	Questions related to Course Outcomes
Part – A	**Questions carrying 2 Marks**
1	Define IoT. List its applications.
2	List key characteristics of IoT.
Part – B	**Questions carrying 3 Marks**
1	Explain Key components of IOT.
2	Explain IOT security challenges.
Part – C	**Questions carrying 4 Marks**
1	Explain Design challenges of the Internet of Things
2	List out Applications of IOT.
Part – D	**Questions carrying 7 Marks**
1	Draw and explain IOT architecture.

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N. G. PATEL POLYTECHNIC

COMPUTER ENGINEERING DEPARTMENT

FORMAT FOR ASSIGNMENTS

Course Name (With Code): Fundamentals of IoT(4360701)

Semester / Year: Sixth/Third

Assignment Number: 2

Assignment CO Number: 4360703.2

Sr. No.	Questions related to Course Outcomes
Part – A	**Questions carrying 2 Marks**
1	Define Sensors, Actuators, and Transducers
2	Explain the need of ADC circuit in analog sensors.
Part – B	**Questions carrying 3 Marks**
1	List different types of sensors and its applications.
2	List different types of actuators and its applications.
3	Explain need of relay while using actuators
Part – C	**Questions carrying 4 Marks**
1	Explain working of following actuators i) Servo motor ii) Stepper moto.
2	Explain working of following sensors. i) LDR sensor ii) PIR motion sensor
Part – D	**Questions carrying 7 Marks**
1	Give examples of commonly used actuators in IoT.

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