C. U. SHAH UNIVERSITY
Winter Examination-2022

Subject Name : Internet of Things and Embedded System

Subject Code : 4TE08ITE1   **Branch: B.Tech (CE)**

Semester: 8   **Date: 20/09/2022**   **Time: 02:30 To 05:30**   **Marks: 70**

Instructions:
(1) Use of Programmable calculator & any other electronic instrument is prohibited.
(2) Instructions written on main answer book are strictly to be obeyed.
(3) Draw neat diagrams and figures (if necessary) at right places.
(4) Assume suitable data if needed.

Q-1	**Attempt the following questions:**	
a)	What is the use of XML?	**(01)**
b)	List down any four applications of IoT.	**(01)**
c)	Write the difference between artificial intelligence and internet of things.	**(01)**
d)	What do you mean by open-source hardware?	**(01)**
e)	What is the use of ultrasonic sensor?	**(01)**
f)	Define Augmented Intelligence.	**(01)**
g)	List out any two major applications of API.	**(01)**
h)	Define the term IoT.	**(01)**
i)	List out various phases of Project development.	**(01)**
j)	How many arguments are used for pin Mode function?	**(01)**
k)	What do you mean by Data Privacy in Information sharing?	**(01)**
l)	List out the various types of XML Document.	**(01)**
m)	List out the most suitable databases for IoT.	**(01)**
n)	What do you mean by "Thingful"?	**(01)**

Attempt any four questions from Q-2 to Q-8

Q-2	**Attempt all questions**	
A	Discuss about various components of Internet of Things.	**(07)**
B	Explain about major issues arise in Sensor Technology .	**(07)**
Q-3	**Attempt all questions**	
A	Explain the JASON program structure and its datatypes.	**(07)**
B	What are the different layers of the IoT protocol stack? Explain the classification of IoT protocols.	**(07)**
Q-4	**Attempt all questions**	
A	Illustrate the usage of various level of user engagement in Design.	**(07)**
B	Explain the structure of an Arduino sketch.	**(07)**

Q-5		**Attempt all questions**	
	A	Differentiate API and Web services.	**(07)**
	B	Explain future challenges of Internet of Things Technology.	**(07)**

Q-6		**Attempt all questions**	
	A	Discuss about importance of Planning and Risk identification in Project development process.	**(07)**
	B	Explain security, privacy and trust in IoT-data-platforms for smart devices.	**(07)**

Q-7		**Attempt all questions**	
	A	Discuss the reasons of shifting from m2m to IoT.	**(07)**
	B	Explain XML Schema in detail with appropriate example.	**(07)**

Q-8		**Attempt all questions**	
	A	Define prototyping. Explain various types of prototyping used in IoT.	**(07)**
	B	Implement calculator based on Arduino.	**(07)**