

Enrollment No: \_\_\_\_\_

Exam Seat No: \_\_\_\_\_

# C. U. SHAH UNIVERSITY

## Winter Examination-2019

**Subject Name: Internet of Things and Embedded System**

**Subject Code: 4TE08ITE1**

**Branch: B.Tech (CE)**

**Semester: 8**

**Date: 13/09/2019**

**Time: 10:30 To 01:30**

**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.
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**Q-1            Attempt the following questions:**

- |  |           |
|--|-----------|
| a) What is difference between API and Web services?      | <b>01</b> |
| b) A program written with the IDE for Arduino is called? | <b>01</b> |
| c) What is SOAP?   | <b>01</b> |
| d) Define web service.                                   | <b>01</b> |
| e) Define Actuators.                                     | <b>01</b> |
| f) How many digital pins are there on the UNO board?     | <b>01</b> |
| g) List out the components of web services?              | <b>01</b> |
| h) What is Arduino and why it is used?                   | <b>01</b> |
| i) What are examples of IoT devices?                     | <b>01</b> |
| j) Write any two advantages of XML.                      | <b>01</b> |
| k) What is JSON used for?                                | <b>01</b> |
| l) List out any two advantages of IoT.                   | <b>01</b> |
| m) What is the purpose of XML in Web service?            | <b>01</b> |
| n) What is the difference between raspberry and Arduino? | <b>01</b> |

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

**Q-2            Attempt all questions**

- |   |           |
|---|-----------|
| (a) Explain opinions on IoT Application and Value for Industry.                 | <b>07</b> |
| (b) Explain security, privacy and trust in IoT-Data-Platforms for smart cities. | <b>07</b> |



- Q-3            Attempt all questions**
- (a) Explain main design principles and needed capabilities for Building architecture of IoT. **07**
- (b) Why a good planning is very necessary for successful project? **07**
- Q-4            Attempt all questions**
- (a) Briefly explain about components in Internet of Things. **07**
- (b) What is an API and how it works? What information does Face book API provide? **07**
- Q-5            Attempt all questions**
- (a) Explain in detail access control and message integrity of IoT. **07**
- (b) List out Connected-device Prototyping Tools. Explain any one of them. **07**
- Q-6            Attempt all questions**
- (a) Which are Hardware and Software components of IoT? How do these components get synchronized in an IoT based application? **07**
- (b) What is XML? What are Different Components of XML? Explain with Example. **07**
- Q-7            Attempt all questions**
- (a) Explain challenges of the Internet of Things. **07**
- (b) What is a smart home? What are the functions of IoT based smart home? Which sensors are required to make smart home? **07**
- Q-8            Attempt all questions**
- (a) What are 4P of Management? **07**
- (b) Explain three levels of User Engagement. **07**

