Reg.No. \_\_\_\_\_\_\_\_\_\_\_\_



**UNIVERSITY**

(Karunya Institute of Technology & Sciences)

(Declared as Deemed-to-be University under Sec.3 of the UGC Act, 1956)

**End Semester Examination – Nov/Dec– 2017**

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| **Code :** | **17CS3077** | **Duration :** | **3hrs** |
| **Sub. Name :** | **INTERNET OF THINGS** | **Max. marks :** | **100** |

**ANSWER ALL QUESTIONS (5 x 20 = 100 Marks)**

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| **Q. No.** | **Sub Div.** | **Questions** | **Course**  **Outcome** | **Marks** |
| 1. | a. | Give any two difference between sensor and transducer. | CO1 | 4 |
| b. | Classify sensors based on their output. | CO1 | 6 |
| c. | Outline the various sensorial deviations. | CO1 | 10 |
| (OR) | | | | |
| 2. | a. | List and Describe the types of actuators. | CO1 | 12 |
| b. | Discuss about the functional componenets of IOT | CO1 | 8 |
| 3. |  | Brief about various data protocols in IOT. | CO1 | 20 |
| (OR) | | | | |
| 4. | a. | Write an Arduino Program to control traffic light as per the following specifications:   1. Initially, all the LEDs are turned off 2. The LEDs are turned on one at a time with a delay of 5 seconds 3. The message is displayed accordingly. | CO2 | 8 |
|  | b. | Design an Arduino circuit to display temperature and humidity in the serial monitor. | CO2 | 7 |
|  | c. | What are the two library functions to read DHT 11 sensor using Arduino. | CO2 | 5 |
| 5. | a. | List the data types in python programming | CO3 | 8 |
|  | b. | Write a python program to add two numbers. | CO3 | 5 |
|  | c. | Write a python program to print if a number is prime or not. | CO3 | 7 |
| (OR) | | | | |
| 6. | a. | What is Raspberry Pi? | CO4 | 2 |
|  | b. | Compare and Contrast various model of Raspberry Pi. | CO4 | 8 |
|  | c. | Write a python program to blink an LED using Raspberry pi. | CO4 | 10 |
| 7. | a. | List the various functions used for plotting of data. | CO5 | 8 |
|  | b. | Discuss various service models in Cloud Computing. | CO5 | 7 |
|  | c. | Give few examples of private and public cloud. | CO5 | 5 |
| (OR) | | | | |
| 8. | a. | Compare Qualitative and Quantitative Data. | CO5 | 5 |
|  | b. | What are the various steps in Data Analytics? | CO5 | 5 |
|  | c. | Discuss any two use cases where IOT Analytics is used. | CO6 | 10 |
|  | | **Compulsory**: |  |  |
| 9. | a. | Build an Internet of Things Prototype for Smart Health monitoring system. | CO6 | 4 |
|  | b. | List the various sensors used in designing a personal health care system for aged people. | CO6 | 6 |
|  | c. | Determine the type of data collected from smart transport system? Suggest a solution to store the collected data. | CO6 | 4 |
|  | d. | What type of analytics could be performed on data collected from smart city? | CO6 | 6 |

ALL THE BEST