Question Paper

Exam Date & Time: 27-Nov-2018 (10:00 AM - 01:00 PM)

MANIPAL ACADEMY OF HIGHER EDUCATION

SCHOOL OF INFORMATION SCIENCES

FIRST SEMESTER MASTER OF ENGINEERING - ME (INTERNET OF THINGS)

IoT Application Development [IOT 615.1]

Marks: 100 **Duration: 180 mins.**

END SEMESTER DEGREE EXAMINATION NOVEMBER 2018

Answer all the questions.

1) What is an IoT platform and exaplin the following IoT platforms (10)
   i) Amazon Web Services (AWS)
   ii) Microsoft Azure
   iii) Cisco IoT cloud connect

2) a. What are the basic features of Operating system --- 5 Marks (10)
   b. Explain the functionality of GRUB and GRUB2 --- 5 Marks

3) a. What is Embedded Linux and Explain the steps involved in Linux Kernel Compilation --- 7 Marks (10)
   b. What is Monolithic and MicroKernel ---- 3 Marks

4) a. What does the MakeFile contain and write MakeFile structure --- (7) (10)
   b. What are the advantages of MAKE command --- (3)

5) a. What are Pipes and Redirection in Linux --- (6) (10)
   b. Explain briefly about Linux Parameter Variables --- (4)

6) a. What are the standard datatypes in python and explain --- (7) (10)
   b. What are string formating operators in python --- (3)

7) a. Write the SQL query syntax to create a database, to create a table and to insert the values into a table ---- (4) (10)

b. Write a Python program to select the contents of a table named 'Student' with attributes (Student ID, Branch, Semester, Mobile Number, DOB)

- (6)

8) Write a python socket programs to depict the client server communication --- (10) (10)

9) a. Write the difference between File System vs RDBMS --- (4) (10)

b. Explain the following terms with diagram

i. Multivalued attribute
ii. Composite attribute

--- (6)

10) Draw an ER diagram of the "Students Management System" database with the details given below and properly depict multivalued attributes and composite attributes and the relationships between the entities. (10)

Databasename: "STUDENT MANAGEMENT SYSTEM (SMS)"

Entities: Student, Instructor(Teacher), Course, Department

Attribute details for each entity:

Department: Department Name, Location, Department Head

Instructor(Teacher): Instructor ID, Name (First Name, Last Name), Phone Number, DOB

Course: Course ID, Time Frame, course name

Student: Student ID, Student Name (First Name and Last Name), Data Of Birth(and also age)

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