MASTER OF COMPUTER APPLICATION
FOURTH SEMESTER
INTERNET OF THINGS
MCA - 403.3
(Use Separate Answer Scripts for Objective & Descriptive)

Duration : 3 hrs.

Full Marks : 70

(PART-A: Objective)

Time : 20 min.

Marks : 20

Choose the correct answer from the following:

1X20=20

1. IoT stands for
   a. Introduction of Things
   b. Internet of Things
   c. Internet of Tracking
   d. Interaction of Things

2. The term "Internet of Things" was coined by?
   a. Kevin Ashton
   b. Guido van Rossum
   c. IBM
   d. Ross Ihaka

3. Which of the following process has to support the definition of application topologies in various formats?
   a. Top-down and bottom-up
   b. Management and Configuration
   c. Enrichment of Topology specification
   d. Support of different Migration types

4. Which of the following is true about IoT?
   a. The term Things in the Internet of Things refers to anything and everything in day to day life
   b. IoT has greater transparency, control, and performance
   c. Both A and B.
   d. None of the above

9 The major disadvantage of IoT is
   a. Improved Customer Engagement
   b. Reduced Waste
   c. Enhanced Data Collection
   d. Security

6. IoT devices can easily lead to catastrophe without
   a. Software
   b. Devices
   c. Cloud
   d. Management system

7. The IPV6 has a _____ notation for addressing
   a. Dotted decimals
   b. Hexadecimal
   c. Both a and b
   d. None of the above

8. _____ are the types of actuators
   a. Hydraulic, pneumatic actuators
   b. Electrical, thermal actuators
   c. Mechanical actuators
   d. All of the above

9. Identify the language preferred for IoT analytics
   a. Python
   b. C++
   c. HTML
   d. PHP

10. Through API, _____ service portability is enabled
    a. Device
    b. Networks
    c. Services
    d. System

11. The relation between IoT and M2M is
    a. IoT is part of M2M
    b. M2M is the part of IoT
    c. Both are same
    d. none

12. The communication network in M2M can be used ____
    a. Wireless medium
    b. wired medium
    c. both
    d. none

13. Mostly M2M network performs_____ communication
    a. multicast
    b. broadcast
    c. One to many
    d. one to one

14. NETCONF uses following transport layer for security
    a. TCP
    b. UDP
    c. TLS
    d. none

15. Which layer in SOA delivers messages between applications?
    a. ESB(Enterprise Service Bus)
    b. Service Broker
    c. SOA registry
    d. SOA supervisor

16. In SOA, Service is termed as _____
    a. Software service
    b. Business service
    c. Network service
    d. Developer service

17. _____ Services are the way in which the IoT is connected to data.
    a. Network
    b. Bigdata
    c. Internet
    d. Cloud

18. Which one is used to connect the television to the raspberry pi?
    a. Adapter
    b. HDMI
    c. Both A & B
    d. None of the above

19. In Arduino IDE, IDE stands for
    a. Integrated Digital Environment
    b. Integrated Development Environment
    c. Instruction Development Environment
    d. Integrated Development Embedded

20. Which one of the following is a microcontroller?
    a. Arduino
    b. Raspberry pi
    c. Both a and b
    d. None of the above

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Time : 2 hrs. 40 min.   Marks : 50

[Answer question no.1 & any four (4) from the rest]

1. What is IoT? Explain the fundamental components of IoT   2+8=10

2. a. What are all the advantages of Computer networking?   3+7=10

    b. Explain the types of communication protocols in detail.

3. a. Illustrate the concept of IoT layer Protocol with suitable   5+5=10
       diagram.

    b. Explain the Communication Models of IoT in detail

4. a. What are all the benefits of M2M?   2+8=10

    b. Demonstrate the concept of M2M to IoT & Generic M2M
       Solution with suitable flow diagram.

5. Explain the following: 5+5=10
        a. M2M value chains.
        b. IoT Value chains.

6. a. What are all the main Elements of M2M IoT Architecture?   5+5=10
       Explain.

    b. Illustrate the concept of IoT data management and compute
       stack

7. a. State few lines on IoT Architectural views.   4+6=10

    b. Draw the IoT reference Architecture and explain the functional
       decomposition.

8. a. What is Fog computing?   2+8 =10

    b. What are all the difference between Arduino and Raspberry Pi?
       Explain

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[3]