

PSG COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS)

MCA DEGREE EXAMINATION DECEMBER 2022
(Third Semester)

Branch – COMPUTER APPLICATIONS

DISCIPLINE SPECIFIC ELECTIVE – II INTERNET OF THINGS

Time: Three Hours

Maximum: 50 Marks

SECTION-A (5 Marks)

Answer ALL questions

ALL questions carry EQUAL marks

(5 x 1 = 5)

1. Which of the following is not a fundamental component of an IoT system?
(i) Sensors
(ii) Connectivity and data processing
(iii) User interface
(iv) Transformer
2. Which of the following is false about IoT devices?
(i) IoT devices use the internet for collecting and sharing data
(ii) IoT devices need microcontrollers
(iii) IoT devices use wireless technology
(iv) IoT devices are completely safe
3. Total elements in the Open IoT Architecture is ____
(i) 5 (ii) 6 (iii) 7 (iv) 8
4. Which one of the following protocols is lightweight?
(i) IP (ii) HTTP (iii) MQTT (iv) CoAP
5. Identify the language preferred for IoT analytics.
(i) Python (ii) PHP (iii) C++ (iv) HTML

SECTION - B (15 Marks)

Answer ALL Questions

ALL Questions Carry EQUAL Marks

(5 x 3 = 15)

6. a) Summarize the four Industrial Revolutions.
OR
b) Enumerate the characteristics of FoG computing.
7. a) How sensors and actuators interact with the physical world? Explain.
OR
b) Give a brief account of three classes of Constrained Node defined by RFC 7228.
8. a) Summarize the MQTT message types with its description.
OR
b) State the differences between structured and unstructured data.
9. a) Discuss the Common Challenges in OT Security.
OR
b) Brief on the components of smart city traffic architecture.
10. a) Write about the characteristics of Python.
OR
b) What is the Raspberry Pi? How is Raspberry Pi different from a desktop computer? Explain.

Cont...

SECTION -C (30 Marks)

Answer ALL questions

ALL questions carry EQUAL Marks

(5 x 6 = 30)

11. a) Discuss about IT and IoT networks.
OR
b) Explain the seven layers of the IoT Reference Model.
12. a) With the energy type, state the classifications of actuator.
OR
b) Discuss about LoRaWAN Architecture.
13. a) Compare and contrast CoAP and MQTT.
OR
b) With a neat sketch, describe the components of HDFS.
14. a) Explain the concept of mission continuum and lists the various elements needed to ensure the public safety mission.
OR
b) With diagram, explain the four main layers of IoT integrated for smart cities.
15. a) Explain the steps involved in the IoT system design methodology.
OR
b) Write about the domain model of IoT System for Weather Monitoring.

Z-Z-Z

END