

(6 pages)

Reg. No. : .....

Code No.: 103-44 E

Sub. Code: AECS 61

B.Sc. (CBCS) DEGREE EXAMINATION, APRIL 2023.

Sixth Semester

Computer Science — Major Elective

INTERNET OF THINGS

(For those who joined in July 2020 only)

Time : Three hours

Maximum : 75 marks

PART A — (10 × 1 = 10 marks)

Answer ALL questions.

Choose the correct answer :

1. What is IoT?
- (a) Network of physical objects embedded with sensors
  - (b) Network of virtual objects
  - (c) Network of objects in the ring structure
  - (d) Network of sensors

2. Which of the following is not an IoT device?
- (a) Table
  - (b) Laptop
  - (c) Arduino
  - (d) Tablet
3. Which of the following is not an IoT platform?
- (a) Amazon Web Services
  - (b) Microsoft Azure
  - (c) Salesforce
  - (d) Flipkart
4. Which of the following is not an application of IoT?
- (a) BMP280
  - (b) Smart home
  - (c) Smart city
  - (d) Self-driven cars
5. Which of the following is not a fundamental component of an IoT system?
- (a) Sensors
  - (b) Connectivity and data processing
  - (c) User interface
  - (d) Transformer
6. Which of the following is not an actuator in IoT?
- (a) Stepper motor
  - (b) A fan
  - (c) An LED
  - (d) Arduino

7. How many number of elements in the Open IoT Architecture?  
(a) 3 elements (b) 7 elements  
(c) 8 elements (d) 6 elements
8. IoT gateway must provide \_\_\_\_\_  
(a) Protocol abstraction  
(b) Data storage  
(c) Security with hardware  
(d) Simple and fast installation
9. What IoT collects?  
(a) Device data  
(b) Machine generated data  
(c) Sensor data  
(d) Human generated data
10. Which of the following protocol is used to link all the devices in the IoT?  
(a) HTTP (b) UDP  
(c) Network (d) TCP/IP

PART B — (5 × 5 = 25 marks)

Answer ALL questions, choosing either (a) or (b).  
Each answer should not exceed 250 words.

11. (a) Summarize the characteristics of IoT.  
Or  
(b) Explain the publisher subscriber model in communication models.
12. (a) Describe the assembly in programming paradigm.  
Or  
(b) Point out the steps to getting started with Arduino programming.
13. (a) Differentiate between the IoT in homes and healthcare.  
Or  
(b) What are the IoT and constructions? Explain.
14. (a) Elaborate the main concept of smart city.  
Or  
(b) Bring out the concept of IoT and smart energy.

15. (a) Write down the network technologies for IoT and M2M.

Or

- (b) Discuss the securities in IETF M2M network technologies.

PART C — (5 × 8 = 40 marks)

Answer ALL questions, choosing either (a) or (b)  
Each answer should not exceed 600 words.

16. (a) Determine the physical design of IoT.

Or

- (b) Outline the cloud and fog based architecture of IoT.

17. (a) Discuss the x86 architecture for hardware virtualization.

Or

- (b) What are the benefits of virtualization for embedded systems? Explain.

18. (a) Draw and explain the IoT in architecture with diagram.

Or

- (b) Analysis the different types of cloud models.

Page 5 Code No. : 10344 E

19. (a) Formulate the dimensions and components of smart city initiatives.

Or

- (b) Examine the IoT applications in smart cities.

20. (a) Identify the security for IoT and M2M technologies.

Or

- (b) Evaluate the securities in ETSI M2M network technologies.

Page 6 Code No. : 10344 E