

(7 pages)

Reg. No. : .....

Code No. : 5852

Sub. Code : WCSE 22

M.Sc. (CBCS) DEGREE EXAMINATION,  
APRIL 2024.

Second Semester

Computer Science

Elective — INTERNET OF THINGS

(For those who joined in July 2023 onwards)

Time : Three hours

Maximum : 75 marks

PART A — (15 × 1 = 15 marks)

Answer ALL questions.

Choose the correct answer :

1. An IoT network is a collection of \_\_\_\_\_ devices.  
(a) Signal (b) Machine to Machine  
(c) Interconnected (d) Network to Network
2. Which of the following IoT networks has a very short range?  
(a) Short Network  
(b) LPWAN  
(c) SigFox  
(d) Short-range Wireless Network

3. Which one of the following is not an IoT device?

(a) Amazon echo voice controller  
(b) Google Home  
(c) Nest Smoke Alarm  
(d) None of these

4. \_\_\_\_\_ specifies the function that will be called when there is a new message received from the channel.

(a) Reconnect (b) Error  
(c) Connect (d) Callback

5. An equation of internet of things \_\_\_\_\_.

(a) physical object + controller sensor and actuator + internet  
(b) controller sensor and actuator + internet  
(c) physical object + internet  
(d) physical object + controller + internet

6. A \_\_\_\_\_ tends to convert physical attribute to an electrical signal.

(a) actuator (b) compiler  
(c) sensor (d) motors

Page 2

Code No. : 5852





7. PAAS stands for \_\_\_\_\_.  
(a) Principal As A Service  
(b) Platform As A Service  
(c) Physical computing As a Service  
(d) Principal As A Software
8. IoT and cloud computing has \_\_\_\_\_ relationship.  
(a) physically (b) graphically  
(c) complementary (d) coding
9. \_\_\_\_\_ is uses certain protocols to aid sensors in connecting with real time machine to machine network.  
(a) Real time analytics  
(b) Data collection  
(c) Device integration  
(d) Real time collection
10. IP stands for \_\_\_\_\_.  
(a) Intelligent Protocol  
(b) Internet Protocol  
(c) Intercommunication Protocol  
(d) Ideal Protocol

Page 3 Code No. : 5852

11. Which one of the following protocols is lightweight?  
(a) MQTT (b) HTTP  
(c) CoAP (d) SPI
12. Which of the following is not an application of IoT?  
(a) Wearables (b) Smart Grid  
(c) Arduino (d) Smart City
13. \_\_\_\_\_ allows the user to control electronic components.  
(a) Android API (b) RESTful API  
(c) MQTT API (d) CoAP API
14. Which of the following layers provides end-to-end communication in IoT?  
(a) Logical layer (b) Data link layer  
(c) Transport layer (d) Session layer
15. How many types of capacitive touch sensors in IoT?  
(a) Two types (b) Five types  
(c) Seven types (d) Nine types

Page 4 Code No. : 5852  
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PART B — (5 × 4 = 20 marks)

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

16. (a) Discover the M2M communications in IoT.

Or

- (b) Identify the IoT architectural view with diagram.

17. (a) Recall the use of REST and RESTful HTTP web applications.

Or

- (b) Differentiate between the IPv4 and IPv6 protocol.

18. (a) Determine the analytics phases of business intelligence.

Or

- (b) Elucidate the services and usage of cloud platform.

19. (a) Devise the functions of RFID wireless communication.

Or

- (b) Summarize the components of an RFID system.

Page 5      Code No. : 5852

20. (a) Elaborate the IoT security tomography and layered attacker model.

Or

- (b) Describe the IoT applications in supply chain and customer monitoring.

PART C — (5 × 8 = 40 marks)

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

21. (a) Outline the need of technology behind IoT.

Or

- (b) Draw and explain the modified OSI model for the IoT and M2M systems.

22. (a) Examine the web communication protocols for connected devices.

Or

- (b) Compare and construct functions of FTP and Telnet.

23. (a) Illustrate the steps of acquiring and storing data for an application.

Or

- (b) Highlight the need of everything as a service and cloud service models.

Page 6      Code No. : 5852



24. (a) What are the types of embedded hardware units? Explain.

Or

- (b) Evaluate the architecture of Arduino Fio board for developing IoT devices development.

25. (a) Formulate the prototyping online component APIs and web APIs.

Or

- (b) Analysis the connected car and its applications and services.
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