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Reg. No. : .....

**Code No. : 40395 E**      **Sub. Code : JMCS 6 C/  
JMSE 6 C**

B.Sc. (CBCS) DEGREE EXAMINATION,  
NOVEMBER 2019.

Sixth Semester

Computer Science/Software Engineering — Main

Major Elective — INTERNET OF THINGS

(For those who joined in July 2016 only)

Time : Three hours

Maximum : 75 marks

PART A — (10 × 1 = 10 marks)

Answer ALL questions.

Choose the correct answer.

1. Which protocol is used to link all the devices in the IoT?

(a) TCP/IP	(b) Network
(c) UDP	(d) HTTP

2. WSN stands for \_\_\_\_\_.
- (a) Wired Sensor Network
  - (b) Wireless Sensor Network
  - (c) Wired Service Network
  - (d) Wireless Service Network
3. Which approach is used in IoT architecture?
- (a) Top down approach
  - (b) Bottom up approach
  - (c) Top down and Bottom Up
  - (d) Neither Top down nor bottom up
4. In SOA, Service is termed as
- (a) Software service
  - (b) Network service
  - (c) Business service
  - (d) Developer service
5. The analog signal is \_\_\_\_\_ in \_\_\_\_\_.
- (a) Continuous, frequency
  - (b) Continuous, time
  - (c) Discrete, frequency
  - (d) Discrete, time

6. IaaS stands for
- (a) Infrastructure as a service
  - (b) infrastructure as a software
  - (c) Internet as a service
  - (d) Internet as a software
7. UML stands for \_\_\_\_\_.
- (a) User Modeling Language
  - (b) User Module Language
  - (c) Unified Modeling Language
  - (d) Unified Module Language
8. What is IIoT
- (a) Information Internet of Thing
  - (b) Industrial Internet of Thing
  - (c) Innovative Internet of Thing
  - (d) None of the above
9. What is the role of communication protocol in IoT?
- (a) Smart cities
  - (b) Cyber physical system
  - (c) Mac layer issue
  - (d) Managing energy

10. Publish command message is sent from
- 
- (a) Only publisher to broker
  - (b) Only broker to publisher
  - (c) Publisher to broker and broker to publisher
  - (d) Server to client

PART B — (5 × 5 = 25 marks)

Answer ALL questions, choosing either (a) or (b).

Each answer should not exceed 250 words.

11. (a) Write short notes on components of M2M system solutions.

Or

- (b) What is IoT? Explain.

12. (a) Write short notes on Global value chain.

Or

- (b) What is reference architecture? Explain.

13. (a) Explain the properties by which the devices can be characterized.

Or

- (b) What is Bigdata? Explain with its characteristics.

14. (a) Write short notes ETSI M2M service capability.

Or

- (b) What is resource descriptor in IoT information model? Explain.
15. (a) What is functional group? Explain IoT service functional group.

Or

- (b) Write short notes on information handling.

PART C — (5 × 8 = 40 marks)

Answer ALL questions, choosing either (a) or (b).

Each answer should not exceed 600 words.

16. (a) What is game changer? Explain their relationship to IoT with example.

Or

- (b) Explain the comparisons of main characteristics of M2M and IoT.

17. (a) Explain Information Driven value chain for IoT briefly.

Or

- (b) Explain the design principle of IoT architecture.

18. (a) Explain briefly how to manage M2M data.

Or

(b) Explain knowledge reference architecture for M2M and IoT.

19. (a) Explain ETSI M2M high level architecture.

Or

(b) Explain the IoT domain model briefly.

20. (a) Explain virtual entity functional group of IoT functional model.

Or

(b) Explain the technical design constraints for developing and implementing M2M and IoT solution in the real world.

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