

Reg. No. : **E N G G T R E E . C O M**

Question Paper Code : 51459

B.E./B.Tech. DEGREE EXAMINATIONS, APRIL/MAY 2024.

Fourth/Sixth Semester

Civil Engineering

OCS 352 — IoT CONCEPTS AND APPLICATIONS

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(Regulations 2021)

Time : Three hours

Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. Give the evolutionary phases of IoT.
2. List out any four enabling technologies in IoT.
3. What is a smart object?
4. What is the use of GPS in IoT?
5. How does BLE differ from Bluetooth?
6. What is the issue of interoperability in IoT?
7. What is the application of cloud computing in IoT?

8. What are GPIO pins used for?
9. List out any two applications of IoT.
10. Define Smart Agriculture.

PART B — (5 × 13 = 65 marks)

11. (a) Discuss IoTWF standardized Architecture with a suitable diagram.
Or
(b) With a neat diagram, explain Core IoT functional stack.
12. (a) Discuss the functional blocks of an IoT Ecosystem.
Or
(b) Explain any four communication modules used in IoT.
13. (a) Discuss the features of IPV6 and MQTT protocol used in IoT.
Or
(b) Explain 6LoWPAN and CoAP protocol used in IoT.
14. (a) Discuss the suitability of Raspberry Pi architecture for IoT deployment along with its salient features.
Or
(b) Discuss the architecture of Arduino and its interfacing using GPIO pins.
15. (a) Briefly discuss the business models for the Internet of Things (IoT).
Or
(b) Explain home Automation as an application of IoT with a neat diagrammatic representation.

PART C — (1 × 15 = 15 marks)

16. (a) (i) Discuss and differentiate between Cloud, Fog and Edge Computing and its application in IoT environment. (10)
(ii) Illustrate a diagrammatic representation of IoT in transportation. Highlight the salient features of smart transportation. (5)
Or
(b) (i) Explain the importance of BigData Analytics in IoT and how it is realized. (10)
(ii) Highlight the benefits of IoT in healthcare with a suitable mindmap. (5)