

Attempt **all** questions. Attempt any **two** parts of each question.

Students are advised to specially check the Numerical Data of question paper in both versions. If there is any difference in Hindi Translation of any question, the students should answer the question according to the English version.

Use of Pager and Mobile Phone by the students is not allowed.

- a) What is the concept of internet of Things? Who introduced IoT?
- b) What are the core characteristics of IoT device? Mention characteristics of IoT application.
- c) Name internet of Things (IoT) enabling technologies.

[2×5=10]

- a) How electronic devices fit with internet of Things?
- b) What is a tri-color LED?
- c) Differentiate between different sensor types.

[2×5=10]

- Q3) a) What are the major components of Internet of Things network?
- b) How data travels across the Internet?
- c) What is Internet protocol and its functions?

[2×5=10]

- Q4) a) What are the features of Arduino Uno board?
- b) Describe Arduino programming language.
- c) How does Arduino IDE work?

[2×5=10]

- Q5) a) Explain the difference between IoT and M2M.
- b) Describe a survey on emerging SDN and NFV security mechanisms for IoT systems.
- c) What is the basic difference between IoT and WoT.

[2×5=10]