

Roll No.

Total Pages : 02

CMMS/M-20

13273

IoT AND BIG DATA

BA-406

Time : Three Hours]

[Maximum Marks : 70

Note : Attempt *Five* questions in all. Q. No. **1** is compulsory.
Attempt any *five* more questions from remaining questions.

- 1.** Answer the following questions in brief : **5×4=20**
 - (a) Explain the concept of IOT with the help of an example.
 - (b) What is wireless sensor network ? Explain
 - (c) What are four characteristics of big data ? Explain.
 - (d) What do you mean by data mining ?
 - (e) What are characteristics of cloud computing ?
- 2.** Discuss design principles of the web connectivity for connected devices. **10**
- 3.** What is RFID system ? What are its main components ? Also discuss major challenges and issues in RFID system. **10**

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4. What are security issues in IoT ? Discuss different models of security in IoT in detail. **10**
5. Discuss business models and business innovations in Internet of things in business. **10**
6. Explain distributed computing model based on Hadoop. **10**
7. (a) What are NO-SQL databases ? Explain their characteristics **5**
(b) Write a short note on web log analysis. **5**
8. What is Map Reduce ? Explain working of map reduce using an example. Write Map Reduce pseudocode for Group By aggregation in a database. **10**
9. Write short notes on the following :
 - (a) Stream Processing with Spark **5**
 - (b) Prototyping the embedded devices for IOT. **5**