Institute of Information Technology
Jahangirnagar University
Professional Masters in IT

2nd Trimester Final Examination, Summer 2022

Duration: 3 Hours

Intake: Spring 2022, Fall 2021

Full Marks: 60

Course Code: PMIT – 6223

Course Title: IoT and Fog Computing

Do not write anything on the question paper.
There are **7 (Seven)** questions. Answer any **5 (Five)** of them.
Figures in the right margin indicate marks.

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1. a) What is internet of thing.   2
   b) Does the Internet of Things (IoT) can be considered as a network of network? Justify and explain your answer.   5
   c) Briefly explain the application and challenges of IoT.   5

2. a) What is sensor? Describe the key performance parameters of smart sensors.   6
   b) Explain with example the working process of resistive and capacitive sensors.   6

3. a) Using a suitable diagram explain how does the data turn into wisdom?   6
   b) Explain the ecosystem of internet of things.   6

4. a) Using a suitable diagram explain the layered architecture of the IoT.   6
   b) What is transducer? Write the working of a transducer.   3
   c) Write the differences between the primary and secondary transducer.   3

5. a) What are limitations of cloud computing in IoT technology? Briefly describe the characteristics of the fog computing.   5
   b) Draw an architecture of IoT including the fog computing and briefly describe each of it layers.   7

6. a) Draw a conceptual block diagram to illustrate the components of a wireless sensor network and list them. Also, briefly discuss the functions of each component.   7
   b) What is ad-hoc network? What are the differences between an ad-hoc network and wireless sensor network?   5

7. a) Describe how the fault tolerance and hardware constrain influences the wireless sensor network   4
   b) What is implosion? How this problem is occurred in data dissemination process in WSN. How this problem can be mitigated.   3
   c) Describe the operation of SPIN protocol for data dissemination in WSN.   5