

**Mumbai University**

**October - 2018**

**B.Sc.IT: SEMESTER – V**

**(QUESTION PAPER)**

**[Choice Based Syllabus]**

**PAPER – II**

**INTERNET**

**OF**

**THINGS**

**Time:** 2 ½ Hours

**Total Marks:** 75

**Note:**

- (1) All Questions (Q1 To Q5) are Compulsory.
- (2) Figures on the right indicate total marks. All sub questions carry equal marks.
- (3) Write the question numbers clearly, as mentioned in the question paper.
- (4) Mixing of sub-questions is not allowed.
- (5) Draw diagrams and give examples whenever necessary.
- (6) Write the comments in the program/algorithm and write the assumptions, if any.
- (7) Use of calculator or any electronic gadget is not allowed.

**Q.1 ATTEMPT ANY THREE QUESTIONS: (15 MARKS)**

- (A) What is IoT? Explain with the help of a nearly Labelled Diagram. (5)
- (B) What do you mean by magic as a metaphor in IoT? (5)
- (C) Compare IP and UDP Protocols. (5)
- (D) What do you mean by affordances? Explain with the help of an example. (5)
- (E) How to keep or maintain the privacy of IoT Devices? (5)
- (F) Explain Static and Dynamic IP Address Assignment. (5)

**Q.2 ATTEMPT ANY THREE QUESTIONS: (15 MARKS)**

- (A) Write a short note on sketching and familiarity in the IoT prototype process. (5)
- (B) Explain in brief the trade-off between cost and ease of prototyping. (5)
- (C) What is an Open Source Technology? What are the advantages of Open Source Technology? (5)
- (D) What is an IDE? Explain the basic features of an IDE with the help of an example. (5)
- (E) What is Mass Personalisation in IoT? What are the advantages of Mass Personalisation? (5)
- (F) What factors need to be taken into account while choosing any Embedded Platform? (5)

**Q.3 ATTEMPT ANY THREE QUESTIONS: (15 MARKS)**

- (A) What are Non-Digital methods to create the prototype of a Physical Design? (5)
- (B) Write a short note on the importance of APIs in IoT. (5)
- (C) Explain CNC milling. (5)
- (D) Explain API Access Token and API rate limiting with the help of an example. (5)
- (E) What is Scraping? What is the legality of Scraping Data through an API? (5)
- (F) Write a short note on 3D Printing. (5)

**Q.4 ATTEMPT ANY THREE QUESTIONS: (15 MARKS)**

- (A) Write a short note on Optimization Techniques for writing Embedded Code. (5)
- (B) Write a short note on types of memory. (5)
- (C) Draw Business Model Canvas diagram and explain any two of its components. (5)
- (D) Explain different ways to fund an IoT startup. (5)
- (E) Explain Lean Startups with the help of an example. (5)
- (F) Write a short note on performance and battery optimization while writing Embedded Code. (5)

**Q.5 ATTEMPT ANY THREE QUESTIONS: (15 MARKS)**

- (A) What is a PCB? Explain the process of PCB Design. (5)
- (B) What is Third-Party Manufacturing? How can we use assembly for mass manufacturing IoT Systems? (5)
- (C) Should we stop manufacturing IoT Systems as it's a cause of pollution? Justify your answer with suitable arguments. (5)
- (D) What is crowdsourcing? Provide an example to support the answer. (5)
- (E) What is certification? How does certification help in the manufacturing of IoT Systems? (5)
- (F) Write a short note on Open IoT. (5)