

TYDS - Liab

Time: 2½ Hours

Total Marks: 75

N. B.:(1) All questions are compulsory.

(2) Make suitable assumptions wherever necessary and state the assumptions made.

(3) Answers to the same question must be written together

(4) Numbers to the right indicate marks.

(5) Draw neat labeled diagrams wherever necessary.

(6) Use of Non-programmable calculators is allowed.

Q 1) Attempt any three from the following:

[15]

- Define and explain the Internet of Things with 2 examples.
- Explain Calm and ambient technology using example of Live wire?
- List and explain the Roles of the people making IOT?
- What are TCP and UDP Ports? Explain with example?
- Discuss the issue of privacy in Internet of things?
- Explain the following application layer protocols:HTTP,HTTPS,SMTP,FTP,POP3,IMAP

Q 2) Attempt any three from the following:

[15]

- Explain microcontrollers and system-on-chips with respect to embedded computing.
- Explain the difficulties encountered during the transition from a prototype to mass production?
- Difference between Open sources versus Closed Source?
- Explain Beagle bone Black with a focus on the following aspects: Operating System, Programming Language, Debugging, Hardware and Openness.
- Compare python characteristics with C++.
- Explain Open source has a competitive advantage and disadvantages .Discuss.

Q 3) Attempt any three from the following:

[15]

- Define and explain Laser Cutting? Explain the main features to consider while choosing a laser cutter.
- What CNC Milling? Explain
- Classify and explain Types of 3D Printing?
- What is Comet? Discuss.
- Define Clockodillo?
- Explain the following terms with respect to APIs: (a) Scraping, (b) Mashing up APIs.

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Q 4) Attempt any three from the following:

[15]

- a) What are the concerns regarding performance and battery life while writing code for embedded system?
- b) Explain different types of libraries for embedded Systems which work with limited memory.
- c) Explain the terms Business Model Canvas?
- d) What is venture capital? How can one exit?
- e) Describe Hobby Projects and open source?
- f) Describe Funding an Internet of things startup?

Q 5) Attempt any three from the following:

[15]

- a) Explain the steps for Manufacturing PCBs.
- b) What is Designing Kits?
- c) Discuss different environmental issues in Internet of Things
- d) Explain five critical requirements for sensor common projects?
- e) Explain Charactering the Internet of Things?
- f) Write a short note on Mass-Producing the case and other Fixtures.

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