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| <b>R-15</b> |
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**Code: 5G16C**

III B.Tech. II Semester Supplementary Examinations October 2020

**Internet of Things**  
( Common to CSE & IT )

Max. Marks: 70

Time: 3 Hours

Answer *all five* units by choosing one question from each unit ( 5 x 14 = 70 Marks )

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| <b>UNIT-I</b> |
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1. a) Define Internet of Things? Explain about things/objects in Internet of Things with example?  
b) Explain in detail IOT architecture with neat diagram?

**OR**

2. a) Define RFID? Explain principles of RFID?  
b) Discuss various components of RFID system?

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| <b>UNIT-II</b> |
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3. a) With neat sketches, demonstrate enterprise IoT stack and its role in designing of IoT applications.  
b) Demonstrate Solutions Layer and its roles and responsibility in enterprise IoT stack.

**OR**

4. Discuss the following in detail
  - a) IoT security
  - b) Cognitive Platform Layer
  - c) Communication Layer
  - d) Analytics Platform Layer

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| <b>UNIT-III</b> |
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5. Explain in detail application areas of IoT in different industry manufacturing domains with example?

**OR**

6. a) With an example explain the general connectivity pattern which allows devices to communicate to the core platform?  
b) Explain about the role of IoT in connected car solutions?

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| <b>UNIT-IV</b> |
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7. a) With a neat sketch explain the architecture of 6LoWPAN?  
b) List out the various benefits from 6LoWPAN?

**OR**

8. a) Briefly explain about Zigbee Compact Application Protocol Stack (CAP)?  
b) With a neat sketch explain about Wireless RFID Infrastructure?

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| <b>UNIT-V</b> |
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9. a) What are the factors considered when you choose your platform?  
b) Write short note on:
  - i) Microcontrollers
  - ii) System-on-chips.

**OR**

10. a) Discuss Why Arduino is most preferable IoT Kit for many applications justify your answer with example?  
b) Create a Program for LED blinking in Arduino IDE?

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| <b>R-15</b> |
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**Code: 5G468**

III B.Tech. II Semester Supplementary Examinations October 2020

**Python Programming**  
( Information Technology )

Max. Marks: 70

Time: 3 Hours

Answer all five units by choosing one question from each unit ( 5 x 14 = 70 Marks )

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| <b>UNIT-I</b> |
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- 1. a) Write a python program to perform addition, subtraction, multiplication, integer division, truncation division on two values? 10M
- b) What is literal? List out kinds of literals in python with example? 4M

**OR**

- 2. a) Explain the process of computational problem solving? 7M
- b) Discuss in brief about operators in python with an example? 7M

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| <b>UNIT-II</b> |
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- 3. a) Write a Python program using while loop to print n numbers divisible by 5. 7M
- b) Write a Python program to find factorial of first n numbers. 7M

**OR**

- 4. a) What is a List in Python? Discuss about any three methods of list with example 7M
- b) Discuss about iterative statements with an example program 7M

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| <b>UNIT-III</b> |
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- 5. What is a function? What are function arguments? Explain different kinds of arguments with an example program. 14M

**OR**

- 6. a) What is an object? How they are represented in python, give an example 10M
- b) Explain about memory deallocation and Garbage collection in python? 4M

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| <b>UNIT-IV</b> |
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- 7. a) What are the two ways of importing a Module? Which one is more beneficial? 7M
- b) Write a Python program to copy a file from another file 7M

**OR**

- 8. a) How do we create Strings? Discuss about String Methods in brief 7M
- b) What is an Exception? How do we create user defined Exception? Explain with an example program. 7M

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| <b>UNIT-V</b> |
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- 9. a) Explain about Dictionary type in python? 10M
- b) Compare Iteration vs recursion? 4M

**OR**

- 10. a) Explain about Recursive problem Solving? 8M
- b) Write a brief note on SET data type? 6M

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**R-15**

**Code: 5G46A**

III B.Tech. II Semester Supplementary Examinations October 2020

**Web Technologies**  
( Information Technology )

Max. Marks: 70

Time: 3 Hours

Answer *all five* units by choosing one question from each unit ( 5 x 14 = 70 Marks )

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**UNIT-I**

1. a) Define table. Explain table attributes and table tags with example.
- b) Discuss the various list tags in html.

**OR**

2. a) Write a Java script for Registration form email validation.
- b) Explain the different cascading style sheets with examples.

**UNIT-II**

3. a) What is XML? Explain the various features of XML.
- b) Design an XML schema for hospital information management. Include every feature available with schema.

**OR**

4. a) Define a JavaBean? Write the advantages of JavaBeans.
- b) List all the classes and interfaces in JavaBeans API.

**UNIT-III**

5. a) Explain how the HTTP POST request is processed using servlets.
- b) With the help of a neat diagram, explain the servlet architecture.

**OR**

6. a) Discuss the javax. Servlet. Http Package
- b) What is session tracking? Explain different mechanisms of session tracking

**UNIT-IV**

7. a) Explain the benefit by using JavaBeans to separate business logic from presentation markup within the JSP environment.
- b) How to use Scripting Elements in JSP? Explain

**OR**

8. a) Assume that you have a valid database of B.Tech students. Write a JSP program for the result portal.
- b) Give a brief note on Anatomy of a JSP Page.

**UNIT-V**

9. a) Describe implicit JSP objects.
- b) Explain the data sharing process between JSP's

**OR**

10. a) Describe error handling and debugging methods in JSP.
- b) Discuss the JSP standard actions.

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