



**BMSCOLLEGE OF ENGINEERING, BANGALORE-19**  
**(Autonomous Institute, Affiliated to VTU)**  
**Department Name: Computer Science and Engineering**

**THIRD INTERNALS**

Course Code: 20CS5PEIOT	Course Title: Internet Of Things	
Semester:5 <sup>th</sup> (A,B,C)	Max Marks: 40	DATE: 06/01/2020
Faculty Handling the Course	Dr.K.Panimozhi	
Instructions: <i>Internal choice is provided in Part C.</i>		

**PART-A**

**Total 5 Marks (No choice)\***

No.	Question	Marks
1	Describe the features of IoTivity framework.	05

**PART-B**

**Total 15 Marks (No Choice, each question should be maximum of 5 marks)\***

No.	Question	Marks
2a.	<p>Analyse the following sequence diagram to interpret the service provided by the IoTivity framework and explain each step briefly.</p> <pre> sequenceDiagram     participant ISV_Client as ISV Client App     participant Client_SDK as Client SDK     participant Client_Wrapper as Client Wrapper (Internal)     participant Client_OCStack as Client OCStack (Internal)     participant Server_OCStack as Server OCStack (Internal)     participant Client_Wrapper2 as Client Wrapper (Internal)     participant Server_SDK as Server SDK     participant ISV_Server as ISV Server App      Note over ISV_Client: [1] resource.put(attributeMap, callback)     ISV_Client-&gt;&gt;Client_SDK: [2] InProcClient.setResourceAttributes(attributeMap, callback)     Client_SDK-&gt;&gt;Client_Wrapper: [3] OCDoResource()     Client_Wrapper-&gt;&gt;Client_OCStack: [4] PUT /light/1     Note over Client_OCStack: Message Pump     Client_OCStack-&gt;&gt;Server_OCStack: [5] call entity handler     Server_OCStack-&gt;&gt;Client_Wrapper2: [6] call OCResource     Client_Wrapper2-&gt;&gt;Server_SDK: [7] InProcClient.put(attributeMap)     Server_SDK-&gt;&gt;ISV_Server: [8] Return code     ISV_Server--&gt;&gt;Server_SDK: [9] Return code     Server_SDK--&gt;&gt;Client_Wrapper2: [10] Return code     Client_Wrapper2--&gt;&gt;Client_OCStack: [11] ACK, CHANGED     Note over Client_OCStack: Message Pump     Client_OCStack--&gt;&gt;Client_Wrapper: [12] invoke wrapperAsyncCallbackFunc     Client_Wrapper--&gt;&gt;Client_SDK: [13] asyncResultHandler     </pre>	05
2b.	Prove that Amazon EC2 with Autoscaling delivers pay as you go compute facility in the cloud	05
2c.	Justify the suitability of WAMP for IoT applications.	05

**PART- C**

**Total 20 marks (Choice is between (3a or 3b) and (4a or 4b))**

No.	Quest	Marks
3a.	Demonstrate how a resource can be queried with the server along with appropriate sequence diagrams.	10
OR		

3b.	Demonstrate how a resource can be registered in the server along with appropriate sequence diagrams.	10
4a	Write a program for launching and stopping an EC2 instance in AWS (Amazon Web Service)	10
OR		
4b.	Write a program to implement WAMP Publisher and WAMP Subscriber using AutoBahn framework.	10