

<b>Name:</b>	 <b>UPES</b> UNIVERSITY WITH A PURPOSE
<b>Enrolment No:</b>	

**UNIVERSITY OF PETROLEUM AND ENERGY STUDIES**  
**End Semester Examination, December 2020**

**Course: Introduction to IOT**  
**Program: B.Tech CSE OGI**  
**Course Code: CSIS 201**

**Semester: VII**  
**Time : 03 hrs.**  
**Max. Marks: 100**

**Instructions:**

**SECTION A**

S. No.		Marks	CO
Q 1	Restate the various finding of the HEATHEN project.	5	CO2
Q 2	Define the taxonomy of network used in any IOT system	5	CO3
Q 3	Define the silent feature of IOT Ecosystem designed in Oil and Gas industry	5	CO1
Q 4	List various enabling technologies to support the transition of IOT in Industry 4.0	5	CO1
Q 5	Differentiate the principle of telemetry and IOT	5	CO3
Q 6	Explain the concepts of Self Service Technologies in IOT framework.	5	CO2

**SECTION B**

Q 7	Creating an IoT network in exploration and production sites possess various security issue while using Adhoc Network as a mean of communication. Elucidate the challenges faced while working with Adhoc Network.	10	CO3
Q 8	Explain in detail the MQTT used as standard protocol in any IOT systems?	10	CO2
Q 9	Construct the design architecture of IOT for connecting the component of various midstream industry.	10	CO1
Q 10	Standards plays an important role in deploying any technologies. Illustrate various different standards used in any IOT industry	10	CO3
Q 11	Elucidate various different communication models and protocol used in any IOT system.	10	CO2

**SECTION-C**

Q 12	1. Define various application of IOT in Oil and Gas industry. 2. Explain with appropriate example working principle of the following protocols in the oil and gas industry: 2.1) COAP 2.2) DDS  <b>Or</b> 1. Define various application of IOT in transport industry 2. Explain with appropriate example working principle of the following protocols in the transportation industry:	10+10	CO4
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	2.1) WebSocket 2.2) XMPP		
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