

JK Lakshmipat University Jaipur
INSTITUTE OF ENGINEERING AND TECHNOLOGY
EndTerm 2, 2022

Roll No.....

Open notes – Open book exam / Laptop allowed

Course Code : EE1216 Industrial IoT

Time: 2 hours

Max. Marks: 30

Instructions to students:

1. Do not write anything other than your roll number on question paper.
2. Assume suitable data wherever required and mention it clearly.
3. Writing appropriate units, comments, nomenclature, and drawing neat sketches/schematics/ flow chart wherever, required are an integral part of the answer.
4. You are not allowed to use Google or other search engines while solving this exam.
5. You are not allowed to accept/give help from/to another person while solving this exam.

Q1	JKLU-Med is a manufacturer of medical equipment which brings health to countless patients in 100 countries: anesthesia machines, suction pumps, sterilizers, blood chemistry analyzers, defibrillators, diagnostic ultrasound with probes, etc. Imagine that you are an IIoT developer, and an important representative of this company invites you for a meeting because they want to know more about potential IIoT applications. Sketch a technical proposal for this client, including system architecture.	5 marks
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Write Node-Red and Arduino code to solve the following problem:

Q2	When the string "LED ON" or "LED OFF" is published to MQTT broker, to the following topic: IIoTEndTerm/Name/LED then Arduino built-in LED must turn ON or OFF. Note: Name is student's name.	10 marks
Q3	Status of Arduino built-in LED is displayed on Node Red dashboard	5 marks
Q4	Elapsed time TON, in seconds, since Arduino built-in LED was last time turned ON is displayed on Node Red dashboard. TON should be zero when LED is OFF.	5 marks

5 marks

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