PARUL UNIVERSITY

FACULTY OF ENGINEERING & TECHNOLOGY

B.TECH EXAMINATION (MID SEMESTER)

7TH SEMESTER (WINTER-2022)

SUBJECT NAME (CODE): CYBER PHYSICAL SYSTEMS (203105452)   BRANCH: CSE

DATE: 03-08-2022   TIME: 10:30 AM to 12:00 PM   TOTAL MARKS: 40

Q.l   Marks

(A)   Multiple Choice Questions   05

1.   Which of these is NOT related to Io'T scalability?
      a) Flexibility within Internet.
      b) Large scale deployment.
      c) Real-time connectivity of billions of devices.
      d) Range of each sensor node

2.   MQTT is "__ oriented.
      a) Data
      b) Message
      c) Device
      d)

3.   110\v many pius does l\natog temperature sensor have?
      a) 2
      b) 3
      c) -4
      d) 5

4.   Full form of MQTT
      a) Message Queuing Telemetry Transport
      b) Message Queuing Telegram Transport
      c)   Telegral11 Transport
      d) Message Queue Tclcmetr y Transport

.:).   In what lcngth the /-\va vc CO 11!llHIi1 icates in P2 P mode?

      b) 5-10 meters
      c) IO-lS meters
      d) 20-30 !1L'l,'::rs

(B)   Do as di reeled: 05

L   \Vhat is vision of loT?
      _   _ Computing is the extensiun ofCloud Corn   !ll~
      An embedded system is a combination of   _
      Does fog support loT concepts?

S.   r2C will address large number of slave devices.

Q.2   Attempt any four(Short Questions)   12
       (1) Classify Analog Sensor and Digital Sensor?
       (2) Compare between Arduino Vs. NodeMCU
       (3) What is relation between WSN and loT. Explain with example.
       (4) Describe M2M(Machine to Machine)?
       (5) Explain Raspberry Pi in Briefand Benefits of having Operating System with the
       Device.

Q.3   Attempt any two   08
       (1) Introduce Cloud and Fog Computing.
       (2) List out all the Digital Sensors and explain any two.
       (3) Demostrate MQTT and CoAP loT Protocols purpose in loT.

Q.4   (A) Describe Arduino IDE C Program Segments and Write Program to Blink LED   05
       in Arduino IDE using C.
       (B) What effect will the internet of things (IoI') have on our daily lives? Explain   05
       with anyone example of smart device.
                                    OR
)i-10\\" loT' can   in Efficient \Vaste Management in Smart Cities in   05
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