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B.Tech DEGREE EXAMINATION, NOVEMBER 2023

Seventh Semester

18CSE447T - EDGE COMPUTING

(For the candidates admitted during the academic year 2020 - 2021 & 2021 - 2022)

Note:

i. **Part - A** should be answered in OMR sheet within first 40 minutes and OMR sheet should be handed over to hall invigilator at the end of 40th minute.

ii. **Part - B** and **Part - C** should be answered in answer booklet.

Time: 3 Hours **Max. Marks: 100**

PART - A (20 × 1 = 20 Marks)

Answer **all** Questions

		Marks	BL	CO
1.	A standard port number of secure MQTT is (A) 8088 (B) 8388 (C) 8883 (D) 8838	1	1	1
2.	IoT networks has a very short range (A) Short Network (B) LPWAN (C) SigFox (D) Short Range Wireless Network	1	1	1
3.	A lightweight protocol is (A) MQTT (B) IP (C) HTTP (D) CoAP	1	1	1
4.	The most common IoT communication protocols (A) HTTP, MQTT, AMQP (B) ZigBee, Z-Wave, Bluetooth (C) NFC, RFID, LPWAN (D) SAP, PTC, LoRAWAN	1	1	1
5.	The 5G network is delivered to peak data rates up to (A) 20 Gbps (B) 50 Gbps (C) 70 Gbps (D) 100 Gbps	1	1	2
6.	A type of cell that provides the best level of service for average subscribers (A) Acceptance cell (B) Barred cell (C) Reserved cell (D) Suitable cell	1	1	2
7.	Which country launched the world's first fully-fledged 5G mobile networks in April 2019 (A) China (B) Japan (C) South Korea (D) United States of America	1	1	2
8.	The first phase of 3GPP 5G specifications in Release-15 was scheduled to be complete in (A) 2018 (B) 2019 (C) 2020 (D) 2021	1	1	2
9.	Building automation demonstrates the need for (A) Edge intelligence (B) Sensors (C) Control function (D) Local operations	1	1	3
10.	Challenges can be addressed within a single IoT network by (A) Fog node (B) Cloud node (C) Control node (D) Data node	1	1	3
11.	Fog computing is utilized to ---------- all debris into a single platform. (A) Task (B) Store (C) Integrate (D) Flexible	1	1	3

12.	The Fog node is considered as (A) Floor only (B) Individual room (C) Individual Wing (D) Floor and Wing	1	1	3
13.	One of the following is most basic and commonly used techniques in data visualization (A) Scatter plots (B) Population pyramids (C) Area charts (D) Line charts	1	1	4
14.	Common use cases for data visualization includes (A) Swimming (B) Sports (C) Real time applications (D) Trekking	1	1	4
15.	The most popular data visualization library in python is (A) matinfolib (B) matplotlib (C) pip (D) matpiplib	1	1	4
16.	Where Business intelligence allows huge data and reports to be read in a single graphical interface? It is in (A) Reports (B) Warehouse (C) OLAP (D) Dashboard	1	1	4
17.	If the time-sensitive data are sent to cloud for analysis, the latency will (A) Increase (B) Decrease (C) Neither increase nor decrease (D) It will increase and then decrease	1	1	5
18.	A good approach to reduce latency (A) Analyzing data in cloud (B) Increasing number of nodes (C) Decreasing number of nodes (D) Analyzing data close to the data source	1	1	5
19.	The Computations at device level before the computed data is communicated through internet is (A) Internet-working (B) Fog Computing (C) Edge Computing (D) Cloud Computing	1	1	5
20.	Edge nodes used for game streaming are known as (A) cloud gaming (B) gamelets (C) virtualization technology (D) edge game	1	1	5

PART - B (5 × 4 = 20 Marks)

Answer **any 5** Questions

		Marks	BL	CO
21.	Identify the challenges in IoT for delivering value to the customers.	4	2	1
22.	Express the services in 6LowPAN.	4	2	2
23.	Define Software defined architecture and express the applications of Fog computing.	4	2	3
24.	Express the benefits of data collection in big data.	4	2	4
25.	Classify the features of Edge analytics and state Machine learning in fog computing.	4	2	5
26.	Relate the veracity of NS3 applications in IoT and extend the functions in iFogSim.	4	2	3
27.	Outline the benefits obtained in Deep learning.	4	2	5

PART - C (5 × 12 = 60 Marks)

Answer **all** Questions

		Marks	BL	CO

28.	(a) Investigate about the Hardware connectivity issues and data connectivity issues of IoT in detail.	12	4	1
	(OR)			
	(b) Analyze in detail about the Analytic challenges and Data security challenges.			
29.	(a) Examine in detail about COAP and MQTT with a neat sketch.	12	4	2
	(OR)			
	(b) Analyze about Sigfox and NeUL in detail with suitable examples.			
30.	(a) Scrutinize the System Model Analysis of Fog computing in detail with a neat diagram.	12	4	3
	(OR)			
	(b) Interpret in detail about Software defined multi-Tier Fog architecture.			
31.	(a) Explain about the Visualization layer of big data in detail with a suitable example.	12	3	4
	(OR)			
	(b) Illustrate Apache projects for big data in detail with suitable examples.			
32.	(a) Examine the requirements of Edge system for Hydroponics system in detail with a neat diagram.	12	4	5
	(OR)			
	(b) Explain in detail about Deep Learning in Edge for automation in hydroponics system.			

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