



PRESIDENCY UNIVERSITY

BENGALURU

Roll No.														
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End - Term Examinations – May / June 2026

Date: 30 -05-2026

Time:01:00pm – 04:00pm

School: SOCSE	Program: B-Tech,-CSE(CSG)	
Course Code: CSD2006	Course Name: EDGE AI AND IOT ANALYTICS	
Semester: VI	Max Marks: 100	Weightage: 50%

CO - Levels	C01	C02	C03	C04	C05
Marks	26	24	26	24	—

Instructions:

- (i) Read all questions carefully and answer accordingly.
- (ii) Do not write anything on the question paper other than roll number.

Part A

Answer ALL the Questions. Each question carries 2marks.

10Q x 2M=20M

1.	Explain Cloud AI	2 Marks	L2	C01
2.	Mention two benefits of Edge AI	2 Marks	L2	C01
3.	Define Inner Edge Device.	2 Marks	L2	C01
4.	What is the role of gateways in IoT?	2 Marks	L2	C02
5.	Name the different types of edge devices	2 Marks	L2	C02
6.	List the constraints of edge devices	2 Marks	L2	C03
7.	Mention the Challenges of data storage at the edge	2 Marks	L2	C03
8.	Compare FPGA over ASIC	2 Marks	L2	C03
9.	What is an DOS Attacks	2 Marks	L2	C04
10.	Mention two common applications of edge ai	2 Marks	L2	C04

Part B

Answer the Questions.

Total Marks 80M

11.	a.	Explain the hierarchy of fog and edge computing deployed layers with a diagram	10 Marks	L2	C01
	b.	Distinguish between Cloud AI and Edge AI	10 Marks	L2	C01
Or					
12.	a.	Explain the concept of network slicing and its application requirement in edge systems.	10 Marks	L2	C01
	b.	Describe the MEC Deployment Models in detail with diagram	10 Marks	L2	C01

13.	a.	A temperature sensor has analog output with sensitivity of 10mV/°C. It is connected to the analog pin of a target board that has a 16-bit ADC and Vref = 5V. Compute the resolution and determine the digital value for temperature 20°C and Design a actuator system in which the 4-bit DAC to reconstruct the analog signal. Calculate the reconstructed analog voltage, Resolution/ Step size, Error and Full Scale readings from the DAC for the digital value	10 Marks	L3	C02
	b.	Classify the various short-range and long rang communication used in enabling Edge computing-based IoT Technologies	10 Marks	L2	C02
Or					
14.	a.	A Service provider wants to provide communication in wireless technology for various applications in particular area. The systems operate in various frequency bands. Some of the most popular frequencies range is 125 kHz to 134.2 kHz to 2.45 GHz to 5.8 GHz identify the technology and write the following: a. key specifications b. Working principle c. Advantage, Disadvantage and its Application	10 Marks	L3	C02
	b.	Explain the three and five-layer IoT architecture with a suitable diagram and role of each layer.	10 Marks	L2	C02

15.	a.	Explain the Edge Architecture layers and preprocessing edge ai in detail with diagram	10 Marks	L2	C03
	b.	illustrate the trade-offs between accuracy, speed (latency), and resource consumption in Edge AI systems	10 Marks	L2	C03
Or					

16.	a.	Explain data compression and data optimization techniques improve the efficiency of Edge AI systems in terms of storage, transmission, and processing.	10 Marks	L2	C03
	b.	Discuss the various edge architectures for deploying ML models with diagram	10 Marks	L2	C03

17.	a.	Explain the various security threats in IoT and Edge AI systems with suitable diagram	10 Marks	L2	C04
	b.	Describe the Securing data transmission in real-time analytics and its Core Security Mechanisms with diagram	10 Marks	L2	C04

Or

18.	a.	Discuss the concepts of security and privacy and cross-layer protections in IoT and Edge AI systems	10 Marks	L2	C04
	b.	Explain Edge AI is used in smart cities application with suitable local devices, relevant examples and diagram.	10 Marks	L2	C04