

**VIT**Vellore Institute of Technology
(Deemed to be University under section 3 of UGC Act, 1956)
CHENNAI

Reg. Number: 218PS1532

Continuous Assessment Test (CAT) – I - FEBRUARY 2024

Programme	B.Tech (ECE/ECM/CPS/AI&ML/AIR)	Semester	WS 2023-24
Course Code & Course Title	BECE352E -IoT Domain Analyst	Class Number	CH2023240502557, CH2023240502560, CH2023240502562, CH2023240502564, CH2023240502566, CH2023240502568, CH2023240502570, CH2023240502572, CH2023240502574, CH2023240502576, CH2023240502578, CH2023240502581, CH2023240502583, CH2023240502585, CH2023240502587
Faculty	Dr. Raju Patel, Dr. Berlin Hency V, Dr. B. Nagajayanthi, Dr. Chandramauleswar Roy, Dr. S. R. Mahapatro, Dr. Sritama Roy, Dr. Robith G, Dr. Manimaran P, Dr. Mangal Das, Dr. Manigandan M, Dr. Upender P, Dr. Pritam Bhattacharjee, Dr. Prasanna Bharathi, Dr. Tanmoy Majumder, Dr. Dhanush R	Slot	TA2
Duration	90 Minutes	Max. Mark	50

General Instructions: Answer ALL the questions using appropriate diagram

- Write only your registration number on the question paper in the box provided and do not write other information.
- Only non-programmable calculator without storage is permitted

Answer all questions

Q. No	Sub Sec	Description	Marks
1.		Passport Seva Kendra (PSK, Chennai, Govt. of India) has given a project to Tata Consultancy Services (TCS) to design a web application that would collect the applicant's name, address, photos, biometrics, and other related credentials across randomly generated unique IDs. The web application will store the collected data in the Cloud and will do content matching at the time of the renewal process to help identify the authentication of each applicant. Discuss a suitable model to develop and execute this project. Justify using technical points.	10
2.	(i)	A start-up company is undertaking a new business process that represents a 15% increase in the volume of the products and a 10% increase in the number of employees. The business is dependent on software to run remote processing. Hence this process needs to be tested fully before implementation. Explain the process using SDLC. Out of all the phases, which would be critical in developing, concerning data security and design? (5 marks)	10
	(ii)	If the company wants to develop a proper product prototype, what should be the appropriate testing strategy and why? (5 marks)	

3.		Over the years, Amazon has amassed a substantial quantity of client data. The information is gathered from a variety of sources, such as social media interactions, online transactions, and consumer surveys, and is kept in several databases. The business understands that in order to obtain insightful information and enhance the consumer experience as a whole, it must clean and integrate these data. Explain the processes involved in both data cleaning and data integration thereby resulting in a more accurate, comprehensive, and richer customer database for the E-Commerce company.	10
4.	(i)	Reserve Bank of India (RBI) wants to streamline its reporting procedures by lowering the amount of data it collects and alters without sacrificing the accuracy or applicability of the information. The organization handles enormous volumes of transactional data from several sources, and the present reporting method is growing more time-consuming and resource-consuming. RBI may expedite decision-making, increase efficiency, and streamline reporting procedures by lowering and altering the financial data. Describe a process that could optimize datasets, contribute to better resource utilization and comply with data governance standards. (6 marks)	10
	(ii)	In the horizon with Exploratory Data Analysis (EDA), what are the qualities of making sense of Data? (4 marks)	
5.		Wal-Mart is dealing with massive amounts of sales data acquired from several outlets, each of which records transactions at the item level. The sheer volume of data makes it difficult to do timely trend analysis. Thus, the organization is planning to apply data reduction techniques to extract valuable insights without compromising the accuracy of the results. Explain how a data reduction strategy may be used so that the retail chain's trend analysis process is streamlined, allowing for faster decision-making and a more focused approach in dealing with business difficulties.	10
*****All the best*****			