PS Number	Problem Statement	Description
BC001	Supply Chain Management with Blockchain	Participants are tasked with revolutionizing supply chain management through the integration of blockchain technology. The objective is to enhance the security and transparency of supply chain processes, addressing issues such as counterfeit goods and inefficient tracking. Participants are expected to design and implement a blockchain-based solution that ensures tamper-proof and traceable transactions, providing stakeholders with real-time insights into the supply chain while maintaining robust cybersecurity measures.
BC002	Identity Verification System	In the realm of blockchain and cybersecurity, participants are challenged to create an advanced identity verification system. The focus is on leveraging blockchain for secure and decentralized identity management. Participants should incorporate cryptographic principles to enhance privacy, resilience against cyber threats, and user-controlled identity verification. The goal is to establish a system that is not only technologically advanced but also resilient to cybersecurity challenges associated with identity theft and fraudulent activities.
BC003	Financial Transaction Management using Public Ledgers for Banks	optimizing financial transaction management in the banking sector through the application of public ledgers, emphasizing blockchain technology. Participants are expected to design a secure and transparent platform that enhances transaction speed and integrity while adhering to cybersecurity best practices. Key areas of focus include cryptographic protocols for secure transactions, robust auditing mechanisms, and compliance with cybersecurity standards to ensure the confidentiality and integrity of financial data.

PS Number	Problem Statement	Description
SE001	Improvement System for education low bandwidth area	develop an innovative solution for improving education delivery in low bandwidth areas. The goal is to address the challenges faced by students and educators in regions with limited internet connectivity. Participants should create a system that optimizes the use of available bandwidth, offering seamless access to educational content, interactive learning resources, and collaboration tools. The solution should prioritize efficiency and effectiveness in delivering educational materials to enhance the learning experience in areas with constrained network connectivity.
SE002	Student achivement tracking system for credit of course and other award in school & college (NEP 2022)	In alignment with the National Education Policy (NEP) 2022, participants are tasked with building a comprehensive student achievement tracking system. The objective is to design a platform that facilitates efficient monitoring of student progress, achievement of credits, and receipt of awards within schools and colleges. Participants should focus on implementing features that align with the new education policy guidelines, including credit-based systems and recognition of diverse achievements. The system should provide real-time insights into student performance, enabling educators and administrators to make informed decisions and support the holistic development of students.
SE003	AR-VR based solution for teaching	create an innovative Augmented Reality (AR) and Virtual Reality (VR) solution to enhance the teaching and learning experience. The aim is to leverage immersive technologies to create interactive and engaging educational content. Participants should develop a platform that allows educators to integrate AR and VR elements into their lessons, making complex concepts more tangible and fostering a dynamic learning environment. The solution should cater to various subjects and educational levels, promoting active participation and understanding through immersive and interactive educational experiences.

AI001	**Geo Tagging based Land Allocation(plots) to prevent land grabling**	Participants are tasked with developing an AI-powered solution to address land grabbing through a Geo Tagging based Land Allocation system. The objective is to leverage AI algorithms to analyze geographical data and allocate land plots efficiently. The system should prevent unauthorized land acquisitions by utilizing geo-tagging techniques to verify and validate land ownership. Participants are expected to design a reliable, transparent, and automated platform that ensures fair land distribution while mitigating the risk of fraudulent land grabbing activities.
AI002	**Plant disease & crop yield estimatur**	In the realm of AI applications for agriculture, participants are challenged to create a solution that integrates AI algorithms for plant disease identification and crop yield estimation. The goal is to empower farmers with a tool that can analyze images of crops, identify diseases accurately, and estimate potential yields. Participants should focus on implementing machine learning models trained on diverse datasets to enhance the precision of disease detection and yield prediction. The resulting application should be user-friendly and accessible to farmers, contributing to improved crop management and increased agricultural productivity.
AI003	**Anomaly detection using deep encoder model.**	Develop an innovative anomaly detection system using a deep encoder model. The focus is on leveraging advanced neural network architectures to detect irregular patterns or anomalies in complex datasets. The participants are expected to design and implement a deep learning model, such as a deep encoder, capable of learning normal patterns and identifying deviations. The application areas could range from cybersecurity to industrial monitoring, where the system provides real-time alerts on anomalous behavior, enhancing security and operational efficiency.
AI004	**Fast & Reliable alert system in poorly connected area**	The challenge presented to participants involves creating an AI-driven alert system tailored for poorly connected areas. The aim is to design a system that operates efficiently even in low-bandwidth or unreliable network conditions. Participants should focus on utilizing AI algorithms for quick and reliable communication of alerts, considering potential disruptions in connectivity. The resulting system should provide timely alerts for various scenarios, such as emergencies or critical events, ensuring the safety and well-being of individuals in areas with limited connectivity.

SA001	**CCTV network solution for identifying potential unlawful activities**	Participants are challenged to devise a smart automation solution for CCTV networks aimed at identifying potential unlawful activities. The goal is to develop an intelligent system that employs advanced video analytics and machine learning to automatically detect and alert authorities about suspicious behavior or incidents captured by surveillance cameras. The participants should focus on creating a robust, real-time monitoring system that enhances security and aids in the proactive prevention of criminal activities within the monitored area.
SA002	**Automatic Train Announcement system**	participants are tasked with designing an Automatic Train Announcement System. The objective is to create an intelligent system that automates and enhances the quality of train announcements. The solution should leverage sensor data and automation algorithms to provide passengers with accurate, timely, and context-aware announcements, improving the overall efficiency and passenger experience in railway transportation.
SA003	**Large Scale student monitiring for exam**	The challenge presented to participants involves developing a smart automation solution for large-scale student monitoring during exams. The goal is to design an automated system that leverages technology, such as AI-driven facial recognition and behavior analysis, to monitor students during exams and ensure a secure and fair testing environment. Participants should focus on scalability, real-time monitoring, and the automation of processes to enable efficient large-scale student monitoring, providing a reliable solution for educational institutions.

HC001	Medicine Viability Checking, taking patient Records	Participants are challenged to develop a solution for Medicine Viability Checking, integrating patient records. The goal is to create a system that leverages health records to check the viability and compatibility of prescribed medications for individual patients. The participants should focus on implementing algorithms that analyze patient health records, considering factors such as medical history and current conditions, to ensure the safety and effectiveness of prescribed medications. The resulting solution aims to enhance patient care by providing personalized medication recommendations based on individual health profiles.
HC002	Doctor Availabilty & Appointment Management	In the realm of healthcare, participants are tasked with designing a Doctor Availability and Appointment Management system. The objective is to create an efficient platform that automates and optimizes the scheduling of doctor appointments. Participants should focus on developing a user-friendly interface for both healthcare providers and patients, incorporating features such as real-time availability updates, appointment scheduling, and reminders. The solution aims to streamline the appointment process, reduce waiting times, and improve overall patient experience.
HC003	Patient Health record management	Participants are invited to develop an innovative solution for Patient Health Record Management. The challenge involves creating a comprehensive system that efficiently manages and organizes patient health records in a secure and accessible manner. Participants should focus on features such as electronic health record (EHR) integration, data security, and interoperability to facilitate seamless information exchange among healthcare providers. The resulting solution aims to enhance healthcare delivery by providing a centralized and standardized platform for managing patient health records, ensuring data accuracy, and supporting collaborative care.