



GOVERNMENT POLYTECHNIC, BALASORE

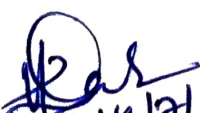
Government of Odisha

ସରକାରୀ ବହୁବୃତ୍ତି ଅନୁଷ୍ଠାନ, ବାଲେଶ୍ଵର

LESSON PLAN (WINTER-2026)

Discipline: COMPUTER ENGINEERING & IOT	Semester: 3RD	Name of the Teaching Faculty: Prakash Chandra Das
Subject: IOT FUNDAMENTALS	No of Days / Per week class allotted: 3	Semester From date: 14TH July, 2026 No of Weeks: 15
Week	Class Day	Theory / Practical Topics
1st	1st	Introduction to IoT (8) Definition and characteristics of IoT
	2nd	Functional requirements and motivation for IoT
	3rd	Physical design: Things in IoT and their roles
2nd	1st	Physical design: Things in IoT and their roles
	2nd	Basic concepts of internetworking and IoT architecture
	3rd	Basic concepts of internetworking and IoT architecture
3rd	1st	Overview of TCP/IP and IoT-specific protocols
	2nd	Overview of TCP/IP and IoT-specific protocols
	3rd	IoT logical design and communication (8) Functional blocks of IoT architecture
4th	1st	Functional blocks of IoT architecture
	2nd	Communication models and APIs for IoT
	3rd	Communication models and APIs for IoT
5th	1st	IoT protocols and their comparison
	2nd	IoT protocols and their comparison
	3rd	Overview of different networking technologies in IoT
6th	1st	Overview of different networking technologies in IoT
	2nd	IoT applications (7) Home Automation: Smart lighting, security, and appliances
	3rd	Smart Cities: Traffic management, smart parking, waste management
7th	1st	Smart Cities: Traffic management, smart parking, waste management
	2nd	Environmental Monitoring: Pollution control, weather tracking
	3rd	Energy Sector: Smart grids and energy optimization
8th	1st	Healthcare: Remote monitoring and wearable devices
	2nd	Industrial IoT: Predictive maintenance, automation
	3rd	M2M communication and IoT system management (8) Introduction to Machine-to-Machine (M2M) communication
9th	1st	Difference between M2M and IoT
	2nd	Software-Defined Networking (SDN) and its role in IoT
	3rd	Software-Defined Networking (SDN) and its role in IoT
10th	1st	Network Function Virtualization (NFV) in IoT
	2nd	IoT system management: Need and importance
	3rd	Management protocols: SNMP, NETCONF, YANG
11th	1st	Management protocols: SNMP, NETCONF, YANG
	2nd	IoT development methodology (7) IoT development lifecycle

12th	3rd	IoT development lifecycle
	1st	Requirements and constraints for IoT applications
	2nd	Process and domain model specifications
	3rd	Process and domain model specifications
13th	1st	Information model specification, Service specification for IoT
	2nd	Information model specification, Service specification for IoT
	3rd	IoT architecture and security (7)
		IoT level specifications and their importance
14th	1st	IoT security challenges and solutions
	2nd	Secure data transmission in IoT
	3rd	Secure data transmission in IoT
15th	1st	Privacy concerns in IoT applications
	2nd	Future trends and emerging technologies in IoT
	3rd	Future trends and emerging technologies in IoT


Faculty 14/07/20


HOD 14/07/20