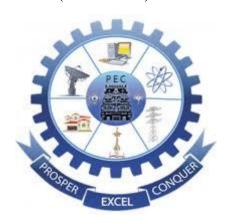
# DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

## IBM – LITERATURE SURVEY

### **PROJECT TITLE**

#### **SMART SOLUTIONS FOR RAILWAYS**

(2022-2023)



**Guide Name: Dr.S.VIJAYA KUMAR** 

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SNO	Title of theproject	Advantages	Disadvantages	Technologyused
1	Electrical power distribution design & voltage profile improvement for metro railway station	1.Electrical distribution for chemical plant, industrial office, commercial buldings. 2.Designed and analyzed new 33kv electrical distribution	1. Any interruption in power supply it went be fail to drive the locomotive	ETAP Software (Electrical Transient Analyzer program)
2	Analysis of experiment railway point electric heating system	1.Simplicity 2.Efficiency	1.Not reduce cleaning efficiency  2.Required manual for switching on electric heating	Pulse Width modulation
3	The IDex case study on the safety measures of IOT-Based railways infrastructures	1.Reliablity 2.Availability 3.Safety 4.Security	1.Required Time constraints	Artificial intelligence of things
4	Simulation – Based evaluation of handover mechanism in high speed railway control and communication system	Feasibility of LTE cellular network for high speed railway train to ground network especially in handover process	1.It cause unnecessary Ping- Pong handover events  2.packet loss rate of communication	Cellular network

5	Failure management strategies for IOT based railway system	1.Reliability 2.security 3.Solution to failure in communication network	1.Failure probability of communication channel and its duration	Internet of Things
6	Automated level crossing A- Futuristic solution enabling smart city infrastructure	1.GPS based automated Lc will present accidents 2.Human errors will be avoided	1.signal from satellite not received at a time.It will lead to accidents	1.Global positioning system (GPS) 2.Programmable logic controller (PLC)
7	Interference control for railways wireless communication system	1.Reduce interference 2.Smart monitoring system 3.Smart antennas to cancel out interference	1.position aware assisted handover  2.Required Coordinated multiple points transmission	Wireless communication
8	Milimeter -Wave communication for smart Rail mobility from channel modelling to prototyping	1.Very fast adaptive beam forming 2.Communication Robustness is efficiently	1.Longer link configuration time at TH2 2.Communications and more practical to enable basic version	1.Wave communication 2.Line of sight

9	Improved modelling for wind turbines on trains	1.Effective energy storage system 2.Potential for grid connection from a savonics wind turbine based generator	1.Unpredictability 2.Enhanced vertical mixing due to turblance generated by wind turbine	Permanent magnet synchronous generator(PMSG)
10	Internet of things of smart railway feasibility and applications	1.low power compsumption 2.High reliability	1.Required various transmission and reception schemes to enhance the reliability of data transfer in multipath	IOT and longrange radio