**DEPARTMENT OF ELECTRONICS AND COMMUNICATION**

**ENGINEERING**

**IBM – LITERATURE SURVEY**

**PROJECT TITLE**

**IoT BASED EMERGING METHODS FOR EARLY DETECTION OF FOREST FIRE**



**Guide Name: Mr.S. Vijayakumar**

**SUBMITTED BY**

**PRITHIVIRAJ K (19105077)**

**PRIYADHARSHNI (19105078)**

**RAGUL B (19105080)**

**RAGUL R (19105081)**

**FINAL YEAR B.E. (ECE)**

**PAAVAI ENGINEERING COLLEGE,**

**Paavai Nagar, NH-7, Pachal, Namakkal-637018, Tamil Nadu**

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| **S.N0** | **TITLE OF THE PROJECT** | **ADVANTAGE** | **DISADVANTAGE** | **TECHNOLOGY USED** |
| 1 | Forest fire alerting system with GPS co-ordinator using IOT | * The objective of the is work is to design and implement an IOT based system * SELF -sustaining and would predict and detect the forest fire and sense the exact location to the concerned Officals | * The maintain is needed more * the letter connection and power supply can be needed | * Arduino module * Temperature sensor * Smoke sensor * Solar module |
| 2 | Geostationary satellite | * The position of the satellite is related to earth antennas * Which does not need orientation * Satellite or positioned at a high attitude | * Long path length and hence losses when compared to LEO,MEO * Satellite more costly to install in GEO in view of greater attitude | * Radar sensor are optical * GIS Technology * Receiver |
| 3 | IOT sensor and DXP neural network based wild fire prediction system | * It can be huge impact of economy, environment, heritage and social fabric of rural areas * The system can predictiy systems (wipresy) monitors and records changes in climate parameter and predicts the intensity of forest fire based on real time data | * It doesn’t suggest any preventive measure * The prediction system which make use of satellite images are in effective because these images get updated onece every two days | * Pressure and attitude sensor BMP-280 * Gps sensors * Temperate and humidity sensor DHT11 |
| 4 | Microwave radio meter | * Parctically all weather /night and day capability to monitor to earth * There poor spatial resolution | * Satellite-borne optical infrared sensor provide a spatical resolution of 10 to 1 km * Depending on frequency and the size of the antenna | * Remote sencing ,weather forecasting,climate monitoring, radio astronomy and radio propotation |
| 5 | Sensor node design | * It is scalable and hence accommodate any new nodes * Wsn nodes accesed through centralised * It does not required wires are cable | It is a prone to hacking by hackers   * Cannot be used for high speed communication * To build such network and hence cannot be affordable by all | * Wsn with the on board processor that manages and monitors * Connected to base station acts a wsn system |
| 6 | Infrared thermal camera | * Low light senarios * Immune to visiul imitation * Fewer false alarams | * Thermal imaging products require high intial inverstment cost * Images are difficult to sepicific object erratic temperature | * Checking three phase equipment * Mechanical installation * Many other application |
| 7 | Sensor node | * Scalable and new nodes are device at anytime * Wsn nodes through centralized   It is does not require wire or cable | * The vulnerable to malicious security attacks * Sensor node devices easy to deploy | * The manages and monitors the environment in area * Connected the base station prossing unit in wsn system |
| 8 | Optical sensor and camera surveillance | * High sensitivity immunity to electro mangnetic interference * The ability to provide multiplex or distributed sensing * Private and sensitive area surveillance ,crime prevention , | * In dusty and dirty environments lenses have to be clened * It comes with risk of individul right to privacy breach * The basic right of privacy of your employe | * To protect against theft ,burglaries and dishonest employe * monitor day to day operation and as a tool to steraming operations |
| 9 | Mobile ad-hoc network (manet) | * Free connection to the internet without any wiressless router * Running an ad-hoc network affordable than tradional network | * Ad-hoc netwoks sowler than traditional network * No central device for managing the security network | * Collecting portable devices like laptop smart phone etc * That communite through wirleless links with one another |
| 10 | Dht11 humidity sensor | * Excellent qulity fast response,anti intetface ability and and high cost performance * Dht 11 sensor futures extremely calibration of humidity calibration chamber | * The covering in which the sensor is enclosed * Long time exposed to high humid enviroiment * As water inside the covering after condensation | * Ultra low cost digital temperature and humidity sensor * Its farily simple to use but requires care full timeing to grab data |