# MAJOR / MINOR PROJECT ABSTRACT [Form – 1] (YEAR - 2020 )

**NAME OF LAB COORDINATOR:** MRS. ANJANA SANGWAN & Dr. Mukesh Kumar Gupta

**TITLE OF PROJECT:** IoT based Remote Weather Controlling

**PROJECT TRACK:** (Tick the appropriate one / ones)

| 1. R&D (Innovation) | 2. CONSULTANCY (Fetched from Industry) | 3. STARTUP (Self-Business Initiative) | 4. PROJECT POOL (From IBM / INFOSYS) | 5. HARDWARE / EMBEDDED ✓ |
|---|---|---|---|---|

**BRIEF INTRODUCTION OF PROJECT:**

IoT based Remote Weather Controlling System is a project whose central task is to remotely monitor and control weather conditions in order to maintain specific required range of temperature and humidity. The idea is to implement intelligent and smart system with least user interaction possible.

**TOOLS / TECHNOLOGIES TO BE USED:**

| NAME OF TOOL / TECHNOLOGY | VERSION | SOFTWARE / HARDWARE | PURPOSE OF USE |
|---|---|---|---|
| Arduino IDE | 1.8.7.0 | SOFTWARE | Arduino UNO Handling and Sensors |
| Arduino UNO | - | HARDWARE | Sensors and Relay |
| The Things Network (TTN) | - | SOFTWARE | Network Server |
| Ubidots | - | SOFTWARE | Application Server |

**PROPOSED PROJECT MODULES:**

| NAME OF MODULE | PROPOSED FUNCTIONALITY IN PROJECT |
|---|---|
| Read Sensor Data | To read sensor data through Arduino and uplink. |
| Uplink | To send data to TTN and integrate to Ubidots |
| Dashboard | Create a dashboard for remote controlling and monitoring |
| Trigger Actions | Actions to be triggered based on cases |
| Downlink | In order to turn on or off the relay |
| | |

**TEAM MEMBER DETAILS:**

| STUDENT NAME | CLASS & GROUP | MOBILE No. | EXPERTISE AREA | ROLE IN PROJECT |
|---|---|---|---|---|
| KESHAV BHANDARI | CS-B (G1) | 9414877228 | LORAWAN and IoT | ALL MODULES |
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**NOTE:** 1. This form is to be submitted by a team of maximum 4 students in the starting of semester to lab coordinator.
2. Students must keep a Xerox copy of this form as reference for project work and attach it to final report.

# ROLE SPECIFICATION OF TEAM MEMBERS [Form – 2]

**MEMBER 1** KESHAV BHANDARI **HANDLING MODULE** ALL MODULES

| NAME OF ACTIVITY | SOFT DEADLINE DATE | HARD DEADLINE DATE | DETAILS OF ACTIVITY (STORY) |
|---|---|---|---|
| READ SENSOR DATA | 29/08/2020 | 5/09/2020 | Sensor interfacing with Arduino UNO |
| UPLINK | 20/09/2020 | 27/09/2020 | Uplinking to TTN to UBIDOTS (Integration) |
| DASHBOARD | 11/10/2020 | 17/10/2020 | Dashboard for remote monitoring |
| TRIGGER ACTIONS | 7/11/2020 | 14/11/2020 | Triggering conditions based on triggers |
| DOWNLINK | 14/11/2020 | 21/11/2020 | Turn relay on or off with triggers |
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**MEMBER 2** _____ **HANDLING MODULE** _____

| NAME OF ACTIVITY | SOFT DEADLINE DATE | HARD DEADLINE DATE | DETAILS OF ACTIVITY (STORY) |
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**MEMBER 3** _____ **HANDLING MODULE** _____

| NAME OF ACTIVITY | SOFT DEADLINE DATE | HARD DEADLINE DATE | DETAILS OF ACTIVITY (STORY) |
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**MEMBER 4** _____ **HANDLING MODULE** _____

| NAME OF ACTIVITY | SOFT DEADLINE DATE | HARD DEADLINE DATE | DETAILS OF ACTIVITY (STORY) |
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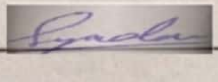
**MENTOR'S NAME & SIGNATURE** MR. SUSHANT KUMAR 

**NOTE:** 1. This form is to be submitted by a team of maximum 4 students in the starting of semester to lab coordinator.
2. Every member student must keep a Xerox copy of this form as reference for his / her part in project work.
3. Students must provide the detailed list of planned activities along with their completion deadline dates.
4. The lab coordinator will check the weekly progress of student against the information provided in this form.

# PROJECT WEEKLY STATUS MATRIX (FOR LAB COORDINATORS) [Form-3A]

| NAME OF STUDENT – 1 | KESHAV BHANDARI | | |
|---|---|---|---|
| NAME OF PROJECT | IoT based Remote Weather Controlling | | |
| OTHER TEAM MEMBERS | 2. — | 3. — | 4. — |

| WEEK (TO-FROM) | WORKING ON MODULE | PROGRESS ACHIEVED | COMMENTS | MARKS (X / 10) |
|---|---|---|---|---|
| 0-1 | READ SENSOR DATA | Interfaced Sensors and Relay | | |
| 1-2 | UPLINK | Configured Gateway | | |
| 2-3 | UPLINK | Uplinks to TTN success. | | |
| 3-4 | UPLINK | TTN to Ubidots success | | |
| 4-5 | DASHBOARD | Integrated parameters with values | | |
| 5-6 | DASHBOARD | Relay button Configuration | | |
| 6-7 | TRIGGER ACTIONS | specifying all cond. | | |
| 7-8 | TRIGGER ACTIONS | Triggering actions | | |
| 8-9 | DOWNLINK | Downlink to TTN success | | |
| 9-10 | DOWNLINK | TTN to Arduino Success | | |
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| TOTAL WEEKS | MODULE COMPLETED (YES / NO) | OVERALL PROGRESS (POOR / AVG / GOOD) | OVERALL COMMENT (POOR / AVG / GOOD) | PERCENTAGE MARKS ESTIMATE |
|---|---|---|---|---|
| 10 | YES | | | |

**LAB COORDINATOR's REMARKS**_____

**NOTE:**
1. This form is to be maintained in a file by lab coordinators for student – 1 of the team to track his / her progress.
2. Lab coordinators must cross check and evaluate the PROGRESS ACHIEVED + it's DOCUMENTATION by student against the work done by student and note their own comments about student's performance.
3. The lab coordinator must evaluate student's work for every lab from a score of 10 points.
4. The lab coordinator must compute average of these points at the end of semester to draw an estimate of the PERCENT MARKS to be awarded to the student for his / her performance.
5. The lab coordinator must IMMEDIATELY CONTACT MENTOR FACULTY of student in case of POOR PERFORMANCE or 2 CONTINUOUS ABSENCE from lab.
6. In case of absence, 00 / 10 MARKS will be awarded if the mentioned work is not presented in next lab by student.

# MAJOR / MINOR PROJECT TRACK BIFURCATION GUIDELINES

The projects to be undertaken in MINOR and MAJOR project schemes are expected to belong to one or more tracks suggested ahead. These project tracks have been structured as follows:

| TRACK | TRACK DETAILS | SAMPLE PROJECT TYPES |
|---|---|---|
| **RESEARCH & DEVELOPMENT PROJECTS** (Innovation) | 1. Projects involving proposal of any INNOVATIVE ELEMENT (theorem, formula, algorithm, procedure, design etc.) will be considered under this track.<br><br>2. A detailed and well published work, i.e. research paper in a journal / conference, (preferably in SKIT research journal or NCETCE conference) will be expected at the end of such 7th semester. | 1. Cloud based applications involving a resource managing / scheduling algorithm.<br>2. Big data applications for reporting or prediction of results<br>3. Machine learning application for summarizing / scanning data values. |
| **CONSULTANCY PROJECTS** (Fetched from Industry by FACULTY or STUDENTS) | 1. Projects achieved from industrial / commercial organizations to be developed as a solution of their problem / requirement will be considered as consultancy projects.<br><br>2. Only project proposals accompanied by well documented consultancy agreement by such industrial / commercial organizations carrying their authorized signatures and seal will be considered under this track.<br><br>3. Any kind of financial payment / remuneration / honorarium drawn from the client organization by the team members must be placed in knowledge of concerned project mentor, lab coordinator and HOD. | 1. Contract for developing Android app for a business organization<br><br>2. Contract for developing a web based ERP solution for an organization<br><br>3. Contract for developing an automation unit (hardware & software) for a manufacturing plant.<br><br>4. Contract for developing a scheduling software for a mechanical / electrical setup. |
| **STARTUP PROJECTS** (Self-Business Initiative) | 1. Projects involving solutions (software / hardware / web application / mobile app etc.) for a proposed business startup will be considered as startup projects.<br><br>2. Only project proposals accompanied by well documented business plan certified by an expert (academic / industrial / commercial person or organization) will be considered under this track.<br><br>3. Any kind of financial information required / planned for setup must be placed in knowledge of concerned project mentor, lab coordinator and HOD. | 1. Developing an Android app for a chain of dealers joining a common business domain (Groffers, Flipkart)<br><br>2. Developing a cloud based file management system (Evernote)<br><br>3. Developing a search & recommendation application for hotels and restaurants (Zomato) |
| **PROJECT POOL** (Listed by IBM / INFOSYS) | 1. Projects available in project pool prescribed by Infosys & IBM will be considered as industry projects. | 1. Library Management System<br><br>2. Online Resume Builder<br><br>3. Prison Management System |
| **HARDWARE** (EMBEDDED PROJECTS) | 1. Projects involving any hardware component (electrical or electronic circuit / mechanical apparatus etc.) will be considered as hardware based project.<br><br>2. Any requirement (fabrication / assembly etc.) for hardware projects should be placed in knowledge of concerned project mentor, lab coordinator and HOD for provision of adequate support and guidance. | 1. Android based control or automation unit for home appliances<br><br>2. RFID based token collection / attendance management system |