Topic 3

1. **Title: Unified** *Mobile App integrating into a common platform with latest state of the art technology*

2. **Description**: The mobile app solution must adopt state of the art technologies.
   Important features of solution:
   1. Registration of users,
   2. Approval mechanism of user by manager,
   3. Accommodate multiple projects with different workflows,
   4. Geo-fencing to address monitoring component,
   5. Voice with NLP based search to get details of feature from vector / raster based datasets,
   6. GPS data capture with improved accuracy,
   7. Provision to save the observation & edit before uploading
   8. Map visualization – real-time location, GIS layers from server,
   9. Real-time GIS analysis within mobile app on offline mode.

3. **Objectives**: Design a framework and develop a mobile app to cater the needs of geo-tagging of assets and visualize captured data in the Android/iOS/Windows handheld devices.

4. **Expected Outcomes:**
   1. Identify an open source hybrid framework to develop a geo-spatial based mobile app.
   2. Design a detailed framework that accommodated all mentioned features in the solution with configurable mechanism.
   3. Design and develop a prototype mobile app solution

5. **Relevant data and steps to get the data from Bhuvan/ other sources:**
   1. The user manuals with workflow of HFA, MGNREGA, JUMP, FASAL& Aquifer solution
   2. Sample JSON having data details of HFA, MGNREGA, JUMP and Aquifer application.

6. **Steps to be followed for achieving the objectives:**
   1. Read the user manuals and understand different workflow
   2. Designing of web services to cater needs of various applications with respect to the JSON format given.
   3. Develop workflow with all mentioned features and prepare workflow diagram
   4. Prepare detailed software requirement specifications, software detailed design and software test plan.
   5. Implement detail design
   6. Test and Evaluation

7. **Evaluation:**
   1. Presentation of detailed frame work design of the mobile app solution addressing all the features mentioned.
   2. Develop basic solution and demonstration of the features.
   3. Code walk for best coding practice.