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| **Time** | **Description** | **Activity** |
| 1. **Introduction to Python Basics** | | |
| **0930** | **1.1 Introduction of workshop**  - Explain objective of the workshop - Show Timeline of workshop  - Connect to RPI via VNC viewer - Introduction of RPI |  |
| **0945** | **1.2 Input, output and variables**  - Explain Input and output and its usages  - Explain Variables  - Explain Types of Variables | - Print **“Hello World”**  - Use **“Input()”** to retrieve Name, Age and 3 interesting thing about yourself  - Print **person’s age after 10 years** |
| **1015** | **1.3 Function calling and Libraries** - Explain “Function” and how to define it  - Explain the purpose of library and how it can be used to call functions - Introduce Sense-Hat  - Shows the various API calls for sense-hat | - Create **“interesting()”** function to ask interesting fact - Display **Name** of LED message  - set of LED colours - Using **“time()”** function to show 3 different LED colours  **- Practical 1** = Create 3 LED Patterns and show in 1 sec interval |
| **1115** | **1.4 Conditional statements, branching & Looping Function** - Explain conditional statement  - Explain “While” Loop and its usage  - Explain “For” Loop and it’s usage | - Number Countdown (Using LED)  - Count up (Using LED) |
| **1130** | **1.5 Conditional branching**  - Explain “If, Elif, Else” function and its usage | - Create Simple User & Password Checker |
| **1145** | **1.6 Advanced programming appreciation**  - Introduce features of Sense-hat: Gyroscope, Joystick | **- Pre-Coded Program**  (Flappy Bird) (Rock, Scissor, Paper) |
| **1200** | **Lunch** | |
| **1300** | **1.7 Application**  - Unguided hands-on activity to apply previous topic concept learnt | - **Practical 2** = Creating a 5 secs LED animation |
| **2. Python GUI – Tkinter** | | |
| **1400** | **2.1 Introduction of Widget**  - Guided activity to explore different Widget in Tkinter | - Guide-through activity to **create a simple food ordering system** |
| **1445** | **2.2 Application**  - Unguided activity to correct a simple Game GUI | - **Makes changes to Simon Says GUI** to original form |
| 1. **Database & Application (MariaDB)** | | |
| **1515** | **3.1 Introduction to Database** - Explain Database and its usage - Create database and insert of data/values | - Guided activity to **insert and retrieve values from database** |
| 1. **Conclusion** | | |
| **1600** | **4.1 Bringing different components together**  - Integrating database, GUI and Logic  - To see the whole system through a simple Game with high score system | - **Appreciation:** playing Simon’s Say and submit name and score to server. Server will display high score of the game |
| **1630** | **Survey + End of Workshop** | |