Current Status of Digital Backends

GSB : Since 2009, this GMRT Software Backend (GSB) is being used as the main backend for scientific observations.

GWB : GMRT Wideband Backend (GWB) was released for test observations with only 16 antenna & limited modes in the year 2015. Now in 2017, it is released for scientific observations with 32 antenna. It is working with many modes & features with 200 MHz and 400MHz Bandwidth. Adding few more features etc.. is in progress.

Other BEs : Single Board (Pocket) & Modular Board (Packetized) correlators are referred as POCO and Pktz correlators. These are built using FPGA based ROACH boards with iADC. Now these are being used as test bench in the upgradation activities.

15 mtr. is built in the NCRA campus, is mainly being used by the PhD students to get the first hand experience in the field of astronomy.

eGMRT : expanded GMRT is in the proposal stage.

RFI : Radio Frequency Interfence (RFI) algorithms are being developed to implement in the various Digital Backends.

Mini Projects : a. Temperature Study : To study the temperature on the CPUs of Host & Node machines in the GWB system.
        b. Temperature Monitoring : To study the existing setup of Air Conditioning in the Digital Backend room and to suggest the modifications in the racks etc.. to help the addition of load (systems) by using the cold air efficiently.
        c. Walsh Modulation/Demodulation : To minimize the cross-talk between the two polarization signals, the phase switching technique is used for the RF signals. It is in the implementation stage.
        d. STP : Short Term Projects (STP) are carried out by the students studying in the final year of technical courses or after completing the course to get experience, to start their professional carrier.