LIST OF FIGURES

FIGURE NO.	TITLE	PAGE NO.
3.1	Runoff plot	14
3.2	Dimension measurement of runoff collection tank	15
3.3	Arduino Mega 2560	19
3.4	NodeMCU	22
3.5	HC-SR04	26
3.6	Breadboard with interconnection	28
3.7	Jumper wire	29
3.8	Single core wire	29
3.9	Circuit diagram of smart runoff measurement system	31
3.10	Arduino IDE software	32
3.11	I2C serial communication	35
3.12	Working of I2C	36
3.13	I2C serial communication bus	37
3.14	Solar panel	42
3.15	Solar battery	43
3.16	Solar charge controller	44
3.17	Connection diagram for Solar PV system	46
4.1	Flow chart of working of smart runoff measurement system	50
4.2	Manual measure and sensor measure runoff depth using Newping Library	52
4.3	Manual measure and sensor measure runoff depth using Newping Library and Iteration method	53

4.4	Manual measure and sensor measure runoff depth using Newping Library and temperature effect equation method	55
4.5	Thingspeak basics and account setup	56
4.6	Smart runoff measurement system channel in Thingspeak	57
4.7	Data downloading page	58
4.8	Sample calculation of downloaded data and generated hydrograph	59