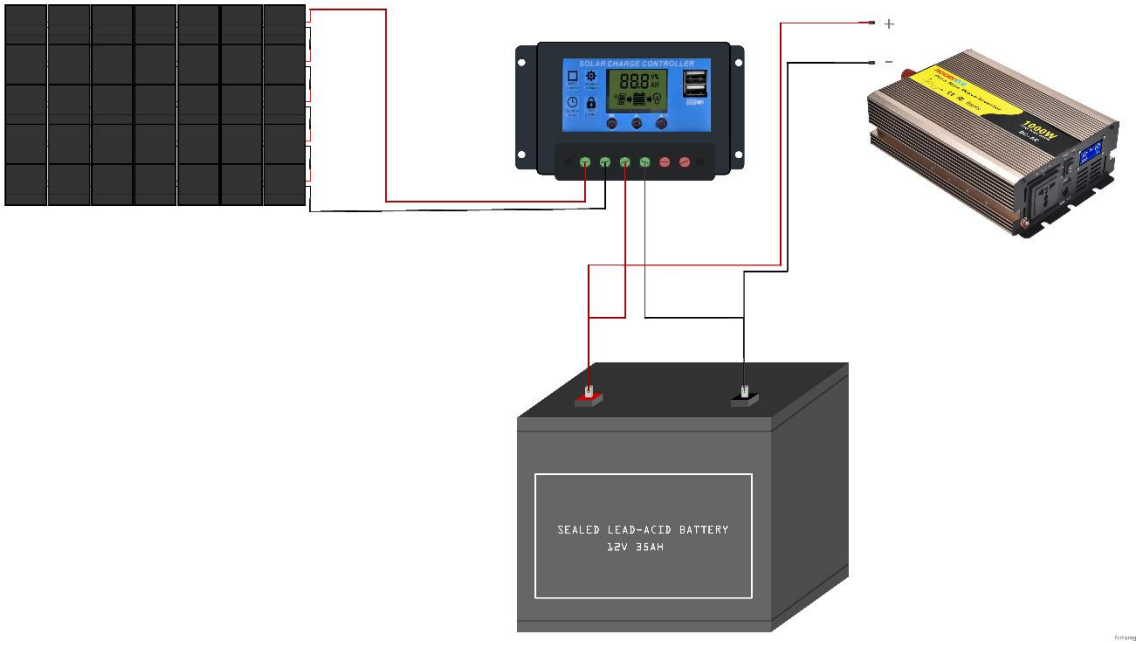
APPENDIX A

Appendix A: Circuit Diagram



APPENDIX B1

Appendix B1: Specifications 12V 500-Watt Pure Sine Wave Inverter

Specificaton

Model	ATO-PSWI-5001
Output Power	500 Watt
Peak Power	1000 Watt
Input Voltage	DC 12V
Outlet Type	Universal socket *1
Input Voltage	DC 12V (9.5-15.5V)
AC Output Voltage	1- Phase (L + N, G)= 110V, 230V ±5% **Do Not provide split phase configuration (L1, L2 + N, G)**
No-load Current (less-than)	≤0.4A
Output Frequency	50Hz or 60Hz
Output Wave	Pure Sine Wave
Waveform Distortion	THD≤3%
USB Port	5V, 2.1A
Max Working Efficiency	95%
Undervoltage Protection	First alarm (breaking alarm sound is one), LED red light flashes, voltage continues to decrease and shut down
Overload Protection	Continuous alarm, LED flashing red, off
Over Temperature Protection	First alarm (broken alarm sound is two), the temperature continues to rise, LED red light flashes and turns off
Short Circuit Protection	Short circuit protection without breaking the circuit
Reverse protection	Fuse blown
Undervoltage Alarm Range	10.5±0.5V
Undervoltage Protection Range	9.5±0.5V
Overvoltage Protection Range	15.5±0.5V
Undervoltage Recovery Range	13±0.5V
Overvoltage Recovery Range	14V±0.2V
Operating Temperature	-10℃~ +50℃
Cooling Way	Intelligent cold wind
Warranty	12 Months
Storage Temperature	-30℃~ +70℃
Humidity	≤90%, non-condensing
Dimensions (W*H*D)	260mm*115mm*59mm
Gross Weight	1.7kg
Accessories	2 Pure copper connection wires + 4 spare fuses

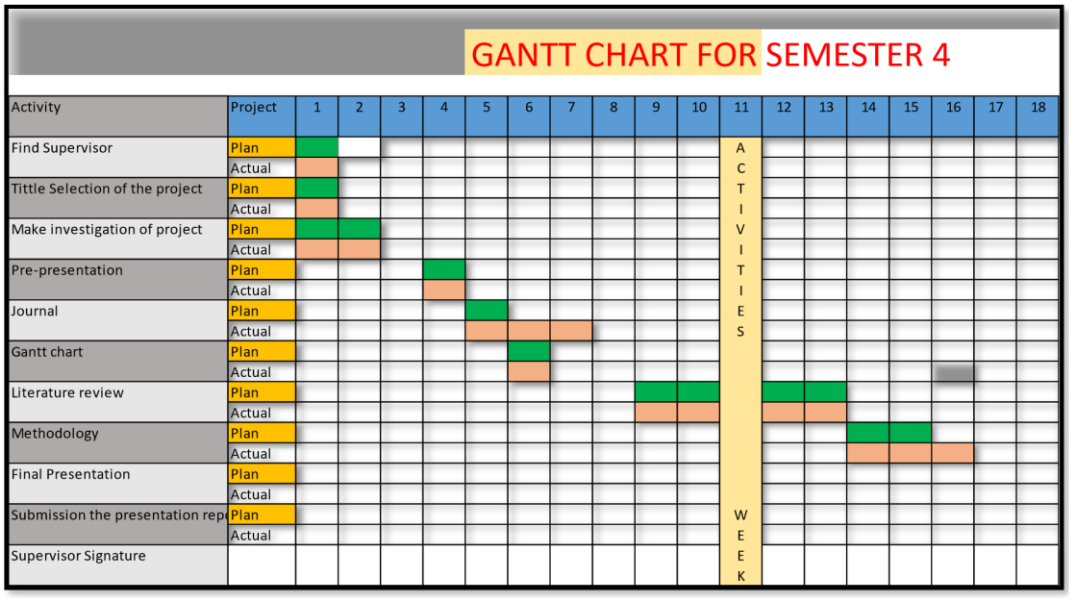
APPENDIX B2

Appendix B2: Specifications 50-Watt 12 Volt Monocrystalline Solar Panel

SPECIFICATIONS	
Output Cables: 1.31 ft	Connectors: solar Connectors
Maximum Power: 50W	Maximum System Voltage: 600V DC (UL)
Optimum Operating Voltage (Vmp): 18.6V	Open-Circuit Voltage (Voc): 22.3V
Optimum Operating Current (Imp): 2.69A	Short-Circuit Current (Isc): 2.94A
Weight: 7.72 lb / 3.5 kg	Dimensions: 22.9 x 20.0 x 1.2 in
Operating Temperature: -40°F to 194°F(-40°C to +90°C)	Panel Leads (Pair): 14AWG (4 m / 1.3 ft long)

APPENDIX C1

Appendix C1: Gantt Chart Semester 4



APPENDIX C2

Appendix C2: Gantt Chart Semester 5