LIST OF FIGURES

Figure	Particulars	Page	
No.		No.	
1.1	Classification of Composites	3	
1.2	Classification of Fibers		
2.1	Different Stages of Curing	11	
2.2	Schematic Diagram of Guarded Hot Plate	16	
3.1	Research Scheme	26	
4.1	Developed Hot Air Oven for Post Process Curing	27	
4.2	Developed Punch and Mould Assembly with Hot Plate for In-Process Curing (IPC)	28	
4.3	Specimen Dimension as Per ASTM D638 for Tensile Test	31	
4.4	Tensile Testing In Universal Testing Machine (Model: Tinius Olsen/Lseries H50kl)	32	
4.5	Specimen Dimensions as per ASTM D790 for Flexural Test	34	
4.6	Flexural Testing In Universal Testing Machine (Model: Tinius Olsen/Lseries H50kl)	35	
4.7	 (A) A plate of Carbon-Vinyl Ester Post Cured (B) A plate of Basalt-Vinyl Ester Post Cured (C) A plate of Jute – Vinyl Ester Post Cured 	36	
4.8	Post Cured Specimen of Jute, Basalt and Carbon Fibers with Vinyl Ester as per ASTM D638 for Tensile Tests	40	
4.9	Specimen of In-Process Curing for Tensile Test as per ASTM D638 Standards	40	
4.10	(A) Specimen with Cu Filler (B) Specimen with Sic Filler (C) Specimen with Al Filler for Tensile Test as per ASTM D638	40	

4.11	Post Cured Specimen of Jute, Basalt and Carbon Fibers with Vinyl Ester as per ASTM D790 for Flexural Tests	41
4.12	Specimens of In-Process Curing (IPC) Jute-Vinyl Ester Composite as per ASTM D790 for Flexural Test	41
4.13	(A) Specimen with SiC Filler (B) Specimen with Cu Filler (C) Specimen with Al Filler for Flexural Tests as per ASTM 790	41
4.14	Hot Plate	43
4.15	Cold Plate	43
4.16	Heater	44
4.17	Control/Display Unit	44
4.18	Assembly of Hot Plate and Cold Plate	46
4.19	Schematic Diagram of Developed Experimental set up for Measuring Thermal Conductivity	48
4.20	Developed Experimental Set-Up for Measuring Thermal Conductivity	49
4.21	Specimens Prepared as per ASTM C1530 of Different Combination of Bamboo and Glass Fibers	51
4.22	Specimen for Testing Thermal Conductivity of Jute-Polyester Composite as per ASTM C1530 (a) with Cu Filler (b) with SiC Filler	52
5.1	(c) with Al Filler Main Effects Plot for Tensile Strength for Jute-Vinyl Ester Composite (PPC)	56
5.2	Main Effect Plot for Tensile Strength of Basalt-Vinyl Ester Composites	57
5.3	(PPC) Main Effect Plot for Tensile Strength of Carbon-Vinyl Ester Composites (PPC)	58
5.4	Main Effects Plot for Flexural Strength of Jute-Vinyl Ester Composites (PPC).	59
5.5	Main Effects Plot for Flexural Strength of Basalt-Vinyl Ester Composites(PPC)	60

5.6	Main Effects Plot for Flexural Strength of Carbon -Vinyl Ester	61
	Composites (PPC)	
5.7	Main Effects Plot for Tensile Strength of Jute -Vinyl Ester Composites	62
	(IPC)	
5.8	Main Effects Plot for Flexural Strength of Jute -Vinyl Ester Composites	63
	(IPC)	
5.9	A plot of the effect of volume fraction of fibers on thermal conductivity	70
	measured by different methods	
5.10	A plot of validation of experimental results compared with other	71
	methods	
5.11	Effects of Filler on Tensile Strength	73
7 10		- 4
5.12	Effects of Filler on Flexural Strength	74
5.13	Effects of Filler on Thermal Conductivity	75
0.10	212000 01 1 1101 011 1 1 1 1 1 1 1 1 1 1	
5.14	Percentage Rise in Thermal Conductivity due to Filler	75
	5.7 5.8 5.9 5.10 5.11 5.12 5.13	Composites (PPC) 5.7 Main Effects Plot for Tensile Strength of Jute –Vinyl Ester Composites (IPC) 5.8 Main Effects Plot for Flexural Strength of Jute –Vinyl Ester Composites (IPC) 5.9 A plot of the effect of volume fraction of fibers on thermal conductivity measured by different methods 5.10 A plot of validation of experimental results compared with other methods 5.11 Effects of Filler on Tensile Strength 5.12 Effects of Filler on Flexural Strength 5.13 Effects of Filler on Thermal Conductivity