<table>
<thead>
<tr>
<th>Figure No.</th>
<th>Title of Figure</th>
<th>Page No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.1</td>
<td>Research Methodology</td>
<td>09</td>
</tr>
<tr>
<td>2.1 A and B</td>
<td>Test Arrangements for Wall Specimens subjected to In-Plane Lateral Load</td>
<td>25</td>
</tr>
<tr>
<td>2.2</td>
<td>Testing arrangement: Hamid Mahmood and Jason M. Ingham(^{71}) in 2011</td>
<td>27</td>
</tr>
<tr>
<td>3.1</td>
<td>Brick Specimen</td>
<td>38</td>
</tr>
<tr>
<td>3.2</td>
<td>Brick Dimensions</td>
<td>38</td>
</tr>
<tr>
<td>3.3</td>
<td>Water Absorption with respect to Time of Immersion of Bricks</td>
<td>41</td>
</tr>
<tr>
<td>3.4</td>
<td>Flexural Test on Bricks</td>
<td>42</td>
</tr>
<tr>
<td>3.5</td>
<td>Cracks in Brick Specimen under Flexural Test</td>
<td>42</td>
</tr>
<tr>
<td>3.6</td>
<td>Frog filled Brick Specimen with Mortar</td>
<td>43</td>
</tr>
<tr>
<td>3.7</td>
<td>Strain Gauge fixed on Brick Specimen</td>
<td>44</td>
</tr>
<tr>
<td>3.8</td>
<td>Brick Testing</td>
<td>44</td>
</tr>
<tr>
<td>3.9</td>
<td>Stress – Strain Curve for Brick Specimens</td>
<td>45</td>
</tr>
<tr>
<td>3.10</td>
<td>Lateral Strain Vs Longitudinal Strain for Brick Specimens</td>
<td>46</td>
</tr>
<tr>
<td>3.11</td>
<td>Sieves arranged for Grading of Sand</td>
<td>48</td>
</tr>
<tr>
<td>3.12</td>
<td>Moulds filled with Mortar</td>
<td>49</td>
</tr>
<tr>
<td>3.13</td>
<td>Compressive Strength Testing of Mortar Specimen</td>
<td>49</td>
</tr>
<tr>
<td>3.14</td>
<td>Stress - Strain Curves for Mortar Specimens</td>
<td>50</td>
</tr>
<tr>
<td>3.15</td>
<td>Lateral Strain Vs Longitudinal Strain for Mortar Specimens</td>
<td>51</td>
</tr>
<tr>
<td>3.16</td>
<td>Masonry Prisms for Compressive Strength Test</td>
<td>52</td>
</tr>
<tr>
<td>3.17</td>
<td>Strain Gauges for Masonry (PL-90-11)</td>
<td>53</td>
</tr>
<tr>
<td>3.18</td>
<td>Application of Strain Gauge</td>
<td>53</td>
</tr>
</tbody>
</table>
3.19  Testing of Masonry Prism in UTM  54
3.20  Vertical Splitting Cracks in Masonry Prism  55
3.21  Stress - Strain Curves for Brick Masonry Prisms  56
3.22  Lateral Strain Vs Longitudinal Strain for Masonry Prisms  57
3.23  Shear Strength Testing of Masonry  57

(A,B,C)
4.1  Masonry Column Specimens  60
4.2  Columns in Existing Masonry Buildings  60
4.3  CFRP Anchor  62
4.4  Application of FRP on Masonry Columns  65
4.4A  Cracked Specimen  65
4.4B  Cracks filled with Lime- Surkhi  65
4.4C  Surface Preparation with Grinder  65
4.4D  Marking on Primer Applied Surface  65
4.4E  Application of Putty  65
4.4F  Epoxy on Putty  65
4.4G  FRP Strip on Epoxy  65
4.5  CFRP with Anchors  66
4.6  GFRP without Anchors  66
4.7  Column Specimen (CWOA) with FRP Strain Gauges  67
4.8  GWOA: Cracking of Vertical Strip  68
4.9  GWOA: Delamination of Horizontal Strip  68
4.10  GWA: Cracking of Vertical Strip  68
4.11  GWA: Delamination of Horizontal Strip  68
4.12  CWOA: Cracking of Vertical Strip  69
4.13 CWOA: Fracture of Horizontal Strip
4.14 CWA: Cracking of Vertical Strip
4.15 CWA: Fracture of Horizontal Strip
4.16 Comparison of Maximum Load Carried by Column Specimens
4.17 Load (kN) Vs FRP Strains (με) for All Strengthened Column Specimens
4.18 Testing arrangement for Control Wall Specimen
4.19 Shear Failure - Bed Joint Sliding in Control Wall
4.20 Diagonal Cracks at Corner in Control Wall
4.21 Surface Preparation of Wall Specimens
4.22 CFRP ‘Only Vertical Strips’ Specimen (CV4)
4.23 Testing Arrangement of Specimen GV4
4.24 Stepped Diagonal Crack in GV4
4.25 Stepped Diagonal Crack on other side of Wall GV4
4.26 Strain Response of Control Wall and GV4
4.27 FRP Strain Response of GV4
4.28 Testing arrangement of Specimen CV4
4.29 (A), (B) Stepped Diagonal Crack in CV4
4.30 Local Delamination of FRP along with Masonry
4.31 Strain Response of Control Wall and CV4
4.32 FRP Strain Response of CV4
4.33 Retrofitted Wall Specimen: GVH8
4.34 Failure of Specimen GVH8
4.35 Strain Response of Control Wall and GVH8
4.36 FRP Strain Response of Specimen GVH8
4.37 Testing arrangement of Specimen CVH8
4.38 Stepped Diagonal Crack on other side of Wall CVH8
4.39 Strain Response of Control Wall and CVH8
4.40 FRP Strain Response of Specimen CVH8
4.41 CFRP Strips arrangement for Specimen CD3
4.42 A Stepped Diagonal Crack in CD3
4.43 FRP Strain Response of Specimen CD3
4.44 Lateral Load Carrying Capacity of all Wall Specimens
4.45 Comparison of Lateral Load - CFRP & GFRP (Only Vertical Strips)
4.46 Comparison of Lateral Load - CFRP & GFRP (Vertical & Horizontal Strips)
4.47 Comparison of Lateral Load for Walls with Different Patterns of CFRP
4.48 Comparison of Lateral Load for Walls with Different Patterns of GFRP
4.49 Comparison of Strain Response of all Wall Specimens
4.50 Comparison of FRP Strain Response of all Retrofitted Wall Specimens
5.1 Results of FEA for Krevaikas and Triantafillou\textsuperscript{48} Column Specimen
5.1A Stress Results
5.1B Strain Results
5.2 Model for Aiello et al.\textsuperscript{41} Masonry Column Specimen
5.3 FE Model of Unstrengthened Masonry Column of Present Study
5.4A and B Strains in Unstrengthened Masonry Columns
5.5 FE Model for Control Wall
5.6 Comparison of Maximum Stress Zones in ANSYS and Test Specimen
5.7 Locations of Strain Gauges on Wall Specimen 105
5.8 Horizontal Strains in Control Wall 106
5.9 Vertical Strains in Control Wall 106
5.10 FE Models for FRP Retrofitted Walls 107
5.10 A ‘Only Vertical Strips’ Pattern 107
5.10 B ‘Vertical & Horizontal Strips’ Pattern 107
5.10 C ‘Diagonal Strips’ Pattern 107
5.11 Strain Response for GV4 107
5.11 A Masonry Strains 107
5.11 B Predominant FRP Strip Strains 107
5.12 Strain Response for CVH8 108
5.12 A Masonry Strains 108
5.12 B Predominant FRP Strip Strains 108
5.13 Strain Response for CD3 108
5.13 A Masonry Strains 108
5.13 B Predominant FRP Strip Strains 108