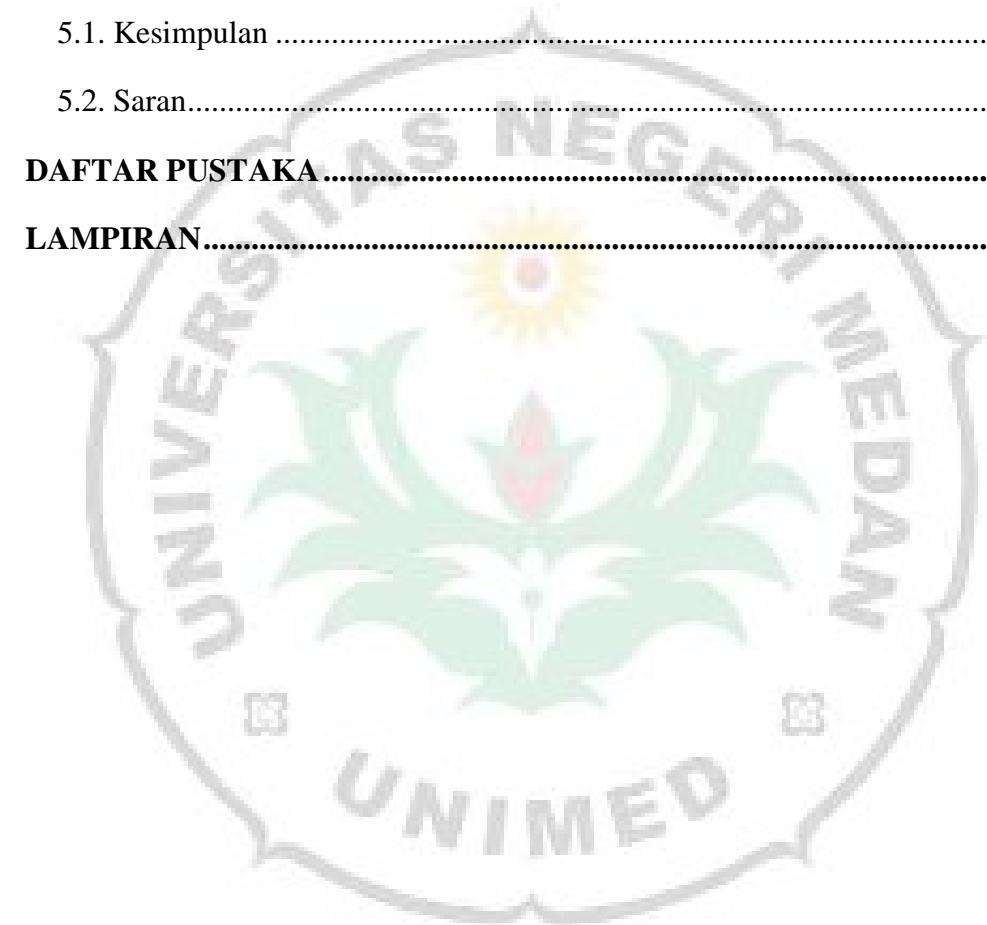


## DAFTAR ISI

|  |             |
|--|-------------|
| <b>LEMBAR PENGESAHAN .....</b>                     | <b>i</b>    |
| <b>LEMBAR PERNYATAAN ORISINALITAS.....</b>         | <b>ii</b>   |
| <b>LEMBAR PERSETUJUAN PUBLIKASI TUGAS .....</b>    | <b>iii</b>  |
| <b>RIWAYAT HIDUP .....</b>                         | <b>iv</b>   |
| <b>ABSTRAK .....</b>                               | <b>v</b>    |
| <b>KATA PENGANTAR.....</b>                         | <b>vii</b>  |
| <b>DAFTAR ISI.....</b>                             | <b>ix</b>   |
| <b>DAFTAR TABEL.....</b>                           | <b>xii</b>  |
| <b>DAFTAR GAMBAR.....</b>                          | <b>xiii</b> |
| <b>DAFTAR LAMPIRAN .....</b>                       | <b>xiv</b>  |
| <b>BAB I PENDAHULUAN .....</b>                     | <b>1</b>    |
| 1.1. Latar Belakang .....                          | 1           |
| 1.2. Batasan Masalah.....                          | 5           |
| 1.3. Rumusan Masalah .....                         | 5           |
| 1.4. Tujuan Penelitian .....                       | 5           |
| 1.5. Manfaat Penelitian .....                      | 6           |
| <b>BAB II TINJAUAN PUSTAKA .....</b>               | <b>7</b>    |
| 2.1. Material Komposit .....                       | 7           |
| 2.1.1. Penguat ( <i>Reinforcement</i> ).....       | 8           |
| 2.1.2. Matrik (Pengisi) .....                      | 9           |
| 2.1.3. <i>Polymer Matrik Composite</i> (PMC) ..... | 10          |
| 2.2. Serat Alami.....                              | 11          |
| 2.2.1. Serat Sabut Kelapa .....                    | 12          |
| 2.2.2. Ijuk ( <i>Arenga Pinata</i> ) .....         | 14          |

|  |           |
|--|-----------|
| 2.3. Resin Epoxy .....                             | 17        |
| 2.4. Perlakuan Alkalinisasi (NaOH).....            | 18        |
| 2..5. Metode Pembuatan Komposit Han lay-up .....   | 19        |
| 2.6. Pengujian Komposit.....                       | 20        |
| 2.6.1. Uji Tarik .....                             | 20        |
| 2.6.2. Uji Impak .....                             | 22        |
| 2.6.3. Uji Bending .....                           | 24        |
| <b>BAB III METODE PENELITIAN .....</b>             | <b>28</b> |
| 3.1. Tempat dan Waktu Penelitian .....             | 28        |
| 3.2. Alat dan Bahan Penelitian.....                | 28        |
| 3.2.1. Alat Penelitian.....                        | 28        |
| 3.2.2. Bahan Penelitian.....                       | 28        |
| 3.3. Variabel Penelitian .....                     | 29        |
| 3.4. Prosedur Penelitian.....                      | 29        |
| 3.4.1. Persiapan Komposisi Bahan.....              | 29        |
| 3.4.2. Proses Alkalinisasi Serat Alami .....       | 30        |
| 3.4.3. Proses Pencetakan Sampel .....              | 30        |
| 3.5. Karakteristik Mekanik.....                    | 31        |
| 3.5.1. Prosedur Pengujian Tarik .....              | 31        |
| 3.5.2. Prosedur Pengujian Bending .....            | 32        |
| 3.5.3. Pengujian Impak.....                        | 32        |
| 3.6. Data dan Analisa .....                        | 33        |
| 3.7 Diagram Alir Penelitian .....                  | 34        |
| <b>BAB IV HASIL PENELITIAN DAN PEMBAHASAN.....</b> | <b>35</b> |
| 4.1. Hasil Penelitian dan Pembahasan.....          | 35        |
| 4.1.1. Uji Tarik .....                             | 35        |

|   |           |
|---|-----------|
| 4.4.2. Uji Bending .....                | 41        |
| 4.4.3. Uji Impak .....                  | 44        |
| <b>BAB V KESIMPULAN DAN SARAN .....</b> | <b>47</b> |
| 5.1. Kesimpulan .....                   | 47        |
| 5.2. Saran.....                         | 48        |
| <b>DAFTAR PUSTAKA.....</b>              | <b>49</b> |
| <b>LAMPIRAN.....</b>                    | <b>52</b> |



*THE  
Character Building  
UNIVERSITY*