# Table of Contents

Certificate

Declaration

Acknowledgments

List of Tables   -  i-ii

List of Figures   -  iii

Abbreviations & Acronyms Used    -  iv - xii

Abstract   -  xiii - xiv

<table>
<thead>
<tr>
<th>Chapter</th>
<th>Pages</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Chapter 1: Introduction</strong></td>
<td>1-29</td>
</tr>
<tr>
<td>1.1 Genesis and Growth of Electronic Information Resources</td>
<td>5</td>
</tr>
<tr>
<td>1.1.1 Types of E-Resources</td>
<td>6</td>
</tr>
<tr>
<td>1.1.1.1 CD-ROMs</td>
<td>6</td>
</tr>
<tr>
<td>1.1.1.2 E-Journals</td>
<td>6-7</td>
</tr>
<tr>
<td>1.1.1.3 E-Books</td>
<td>7</td>
</tr>
<tr>
<td>1.1.1.4 E-Courseware</td>
<td>7</td>
</tr>
<tr>
<td>1.1.1.5 E-Standards</td>
<td>7-8</td>
</tr>
<tr>
<td>1.1.1.6 E-Patents</td>
<td>8</td>
</tr>
<tr>
<td>1.1.1.7 ETD-Electronic Theses and Dissertations</td>
<td>8</td>
</tr>
<tr>
<td>1.2 Consortia Approach to E-Resources</td>
<td>9-11</td>
</tr>
<tr>
<td>1.3 Information Seeking Behaviour</td>
<td>11</td>
</tr>
<tr>
<td>1.3.1 Information Need</td>
<td>12</td>
</tr>
<tr>
<td>1.3.2 Information Want</td>
<td>12</td>
</tr>
<tr>
<td>1.3.3 Information Demand</td>
<td>12</td>
</tr>
<tr>
<td>1.3.4 Information Use</td>
<td>12</td>
</tr>
<tr>
<td>Section</td>
<td>Title</td>
</tr>
<tr>
<td>---------</td>
<td>-------</td>
</tr>
<tr>
<td>1.4</td>
<td>Definitions</td>
</tr>
<tr>
<td>1.5</td>
<td>Information Seeking in Electronic Environment</td>
</tr>
<tr>
<td>1.6</td>
<td>Purpose of the Study</td>
</tr>
<tr>
<td>1.7</td>
<td>Statement of the Problem</td>
</tr>
<tr>
<td>1.8</td>
<td>Need for the Study</td>
</tr>
<tr>
<td>1.9</td>
<td>Significance of the Study</td>
</tr>
<tr>
<td>1.10</td>
<td>Scope and Limitations of the Study</td>
</tr>
<tr>
<td>1.11</td>
<td>Objectives</td>
</tr>
<tr>
<td>1.12</td>
<td>Hypotheses</td>
</tr>
<tr>
<td>1.13</td>
<td>Methodology</td>
</tr>
<tr>
<td>1.14</td>
<td>Sources of Data</td>
</tr>
<tr>
<td>1.15</td>
<td>Design of the Study</td>
</tr>
<tr>
<td>1.16</td>
<td>Survey and Analysis</td>
</tr>
<tr>
<td>1.16.1</td>
<td>Design of Questionnaire Schedule and Pilot Study</td>
</tr>
<tr>
<td>1.16.2</td>
<td>Time Schedule</td>
</tr>
<tr>
<td>1.16.3</td>
<td>Pilot and Full Study</td>
</tr>
<tr>
<td>1.16.4</td>
<td>Attitude of the Respondents</td>
</tr>
<tr>
<td>1.17</td>
<td>Organisation of the Thesis</td>
</tr>
<tr>
<td>1.18</td>
<td>Summary of the Chapters</td>
</tr>
<tr>
<td><strong>Chapter 2:</strong></td>
<td>Review of Literature</td>
</tr>
<tr>
<td>2.1</td>
<td>Introduction</td>
</tr>
<tr>
<td>2.2</td>
<td>Information Seeking Behaviour in General</td>
</tr>
<tr>
<td>2.3</td>
<td>Model of Information Seeking Behaviour</td>
</tr>
<tr>
<td>2.3.1</td>
<td>Information Seeking in Electronic Environment</td>
</tr>
<tr>
<td>2.3.1.1</td>
<td>Information Seeking Behaviour</td>
</tr>
<tr>
<td>2.3.1.2</td>
<td>Electronic Resources</td>
</tr>
</tbody>
</table>
Chapter 3: Growth and Development of Engineering Education - 70-86

3.1 Introduction - 70-72

3.2 Technical Education System in India - 73-75

3.3 Profile of Karnataka State - 75

3.4 Genesis and Growth of Technical Education in Karnataka - 75
   3.4.1 Early beginning - 75-77

3.5 Organisations for Technical Education - 77
   3.5.1 All India Council for Technical Education (AICTE) - 77-78
   3.5.2 National Board of Accreditation (NBA) - 78
   3.5.3 Directorate of Technical Education (DTE) - 78-79
      3.5.3.1 Primary Functions of DTE - 79
      3.5.3.2 Present Scenario - 79-80
   3.5.4 Visvesvaraya Technological University (VTU) - 80-81
      3.5.4.1 Undergraduate Courses - 82
      3.5.4.2 Postgraduate Courses - 82-83
      3.5.4.3 E-learning Initiatives at VTU - 83
      3.5.4.4 EDUSAT- Based Distance Education - 84
      3.5.4.5 Web based E-learning Programme - 84-85
      3.5.4.6 VTU Library facilities - 85

3.6 Summing Up - 86
### Chapter 4: Overview on the Developments in Electronic Resources

<table>
<thead>
<tr>
<th>Section</th>
<th>Title</th>
<th>Pages</th>
</tr>
</thead>
<tbody>
<tr>
<td>4.1</td>
<td>Introduction</td>
<td>87-89</td>
</tr>
<tr>
<td>4.2</td>
<td>Electronic Information Resources</td>
<td>90-92</td>
</tr>
<tr>
<td>4.3</td>
<td>Current Trends and Developments on E-Resources</td>
<td>92-93</td>
</tr>
<tr>
<td>4.4</td>
<td>E-Resources Consortia - New Paradigm to Share E-Resources</td>
<td>93-95</td>
</tr>
<tr>
<td>4.5</td>
<td>E-Resources Consortia in India</td>
<td>95-96</td>
</tr>
<tr>
<td>4.5.1</td>
<td>J-GATE from Informatics India</td>
<td>96-97</td>
</tr>
<tr>
<td>4.5.2</td>
<td>The J-Gate Custom Content for Consortium (JCCC)</td>
<td>98</td>
</tr>
<tr>
<td>4.5.3</td>
<td>INDEST - AICTE Consortium</td>
<td>98-100</td>
</tr>
<tr>
<td>4.5.4</td>
<td>INFLIBNET Consortium - UGC INFONET</td>
<td>100-101</td>
</tr>
<tr>
<td>4.6</td>
<td>E-Resources Scenario in Engineering College Libraries</td>
<td>101-102</td>
</tr>
<tr>
<td>4.6.1</td>
<td>IEEExplore</td>
<td>102</td>
</tr>
<tr>
<td>4.6.2</td>
<td>Springer link</td>
<td>102</td>
</tr>
<tr>
<td>4.6.3</td>
<td>Elsevier Science Direct</td>
<td>102</td>
</tr>
<tr>
<td>4.6.4</td>
<td>ASTM Digital Library</td>
<td>102</td>
</tr>
<tr>
<td>4.6.5</td>
<td>McGraw-Hill Access Engineering</td>
<td>103</td>
</tr>
<tr>
<td>4.6.6</td>
<td>ASME and ASCE Journals</td>
<td>103</td>
</tr>
<tr>
<td>4.6.7</td>
<td>J-Gate</td>
<td>103</td>
</tr>
<tr>
<td>4.7</td>
<td>VTU Consortium</td>
<td>103-104</td>
</tr>
<tr>
<td>4.8</td>
<td>Issues and Challenges</td>
<td>104-107</td>
</tr>
<tr>
<td>4.9</td>
<td>Summing Up</td>
<td>107-108</td>
</tr>
</tbody>
</table>

### Chapter 5: Analysis and Interpretation

<table>
<thead>
<tr>
<th>Section</th>
<th>Title</th>
<th>Pages</th>
</tr>
</thead>
<tbody>
<tr>
<td>5.1</td>
<td>Introduction</td>
<td>109-110</td>
</tr>
<tr>
<td>5.2</td>
<td>The Responses</td>
<td>110-111</td>
</tr>
<tr>
<td>5.3</td>
<td>Designation of Respondents</td>
<td>111</td>
</tr>
</tbody>
</table>
5.3.1 Analysis and Interpretation

5.4 Courses Taught by the Respondents

5.4.1 Analysis and Interpretation

5.5 Years of Experience of Teachers

5.5.1 Analysis and Interpretation

5.6 Frequency of Visit to Library

5.6.1 Analysis and Interpretation

5.7 Average Time Spent in Library

5.7.1 Analysis and Interpretation

5.8 Methods for keeping abreast of latest Developments

5.8.1 Analysis and Interpretation

5.9 Chi-Square Test

5.9.1 Computation of $X^2$ and Degree of freedom

5.9.2 Testing of Hypotheses

5.9.2.1 Hypotheses 1

5.9.2.2 Hypotheses 2

5.9.2.3 Hypotheses 3

5.9.2.4 Hypotheses 4

5.9.2.5 Hypotheses 5

5.10 Importance of Resources in Teaching / Research

5.10.1 Analysis and Interpretation

5.11 Study of E-Resources Awareness and Use

5.11.1 E-Resources Portals Subscribed

5.11.2 Usefulness of E-Resources

5.11.3 Analysis and Interpretation
5.12 Search Interfaces Used
   5.12.1 Analysis and Interpretation
5.13 Places used for Use of E-Resources
5.14 Awareness on Availability of E-Resources
5.15 Frequency and Purpose of Use
   5.15.1 Analysis and Interpretation
5.16 Use of Institutional Repositories
5.17 The Institutional Repositories Consulted
5.18 Different Methods Used to Access E-Resources
5.19 Alternate Methods Used for Satisfactory Results
5.20 The Advantages of E-Resources
   5.20.1 Analysis and Interpretation
5.21 Usefulness of Different Resources
5.22 Preference to Read the Retrieved Information
   5.22.1 Analysis and Interpretation
5.23 Disadvantages of E-Resources
   5.23.1 Analysis and Interpretation
5.24 Problems in Accessing E-Resources
   5.24.1 Analysis and Interpretation
5.25 Computer Terminals Available
   5.25.1 Analysis and Interpretation
5.26 ICT Facilities – Adequacy
   5.26.1 Analysis and Interpretation
5.27 Availability of e-Book Readers
   5.27.1 Analysis and Interpretation
5.28 Opinion on E-Resources Provision - 186-187
   5.28.1 Analysis and Interpretation - 187-188
5.29 Orientation Programmes - 188
   5.29.1 Analysis and Interpretation - 188-189
5.30 Library Staff Cooperation - 189-190
   5.30.1 Analysis and Interpretation - 190-191
5.31 Preferred Information Seeking Habits - 191-192
   5.31.1 Analysis and Interpretation - 192-194
5.32 Factor Analysis - 194
   5.32.1 Kaiser-Meyer-Olkin Test for Sampling Adequacy - 195
   5.32.2 Bartlett’s Test of Specificity - 195
   5.32.3 Results of Factor Analysis - 196-197
   5.32.4 KMO and Bartlett Test for E-Resources in R&D Work - 197-198
   5.32.5 Bartlett's Test of Specificity - 198-207
5.33 Summing Up - 207-208

Chapter 6: Major Findings - 209-226
6.1 On Respondents’ Criteria - 209-210
6.2 Tests of Hypotheses on Library and Resources Use - 210-217
6.3 Other Findings - 217-219
6.4 ICT Infrastructure Facilities - 220
6.5 Opinion on E-Resources - 220
6.6 User Training Programme - 220
6.7 User Information Seeking Behaviour - 221
6.8 Factor Analysis - 221
6.9 Kaiser-Meyer-Olkin Tests for Sampling Adequacy - 222
6.10 Bartlett's Test of Specificity - 222
6.11 Results of Factor Analysis - 222-223

6.12 KMO and Bartlett’s Test for E-Resources in R&D Work - 223
   6.12.1 Bartlett’s Test of Specificity - 223-225

6.13 Summing Up - 225-226

Chapter 7: Conclusions, Points for Further Study - 227-231

7.1 Preamble to the Study - 227
7.2 Conclusion - 228-230
7.3 Points for Further Research Areas - 230-231

Bibliography - 232-248

Appendices

Questionnaire

List of Engineering Colleges in Bangalore Region included in the study

Publications