

## T.E. (Information Technology) 2015 Course to be implemented from June 2017

## SYLLABUS STRUCTURE

## SEMESTER – I

| Subject Code | Subject                                   | Teaching Scheme |          |           | Examination Scheme |                |     |     |    | Total Marks | Credits |
|--------------|---|-----------------|----------|-----------|--------------------|----------------|-----|-----|----|-------------|---------|
|              |   | Lecture         | Tutorial | Practical | In-Sem. Paper      | End-Sem. Paper | TW  | PR  | OR |             |         |
| 314441       | Theory of Computation                     | 4               | --       | --        | 30                 | 70             | --  | --  | -- | 100         | 4       |
| 314442       | Database Management Systems               | 4               | --       | --        | 30                 | 70             | --  | --  | -- | 100         | 4       |
| 314443       | Software Engineering & Project Management | 3               | --       | --        | 30                 | 70             | --  | --  | -- | 100         | 3       |
| 314444       | Operating System                          | 4               | --       | --        | 30                 | 70             | --  | --  | -- | 100         | 4       |
| 314445       | Human-Computer Interaction                | 3               | --       | --        | 30                 | 70             | --  | --  | -- | 100         | 3       |
| 314446       | Software Laboratory-I                     | --              | --       | 4         | --                 | --             | 25  | 50  | 50 | 125         | 2       |
| 314447       | Software Laboratory-II                    | --              | --       | 4         | --                 | --             | 25  | 50  | -- | 75          | 2       |
| 314448       | Software Laboratory-III                   | --              | --       | 2         | --                 | --             | 50  | --  | -- | 50          | 1       |
| 314449       | Audit Course 3                            | --              | --       | --        | --                 | --             | --  | --  | -- | Grade       |         |
|              | Total                                     | 18              | --       | 10        | 150                | 350            | 100 | 100 | 50 | 750         | 23      |
|              | Total of Part-I                           | 28 Hours        |          |           | 750                |                |     |     |    |             |         |

## SEMESTER – II

| Subject Code | Subject                           | Teaching Scheme |          |           | Examination Scheme |                |     |    |    | Total Marks | Credits |
|--------------|-----------------------------------|-----------------|----------|-----------|--------------------|----------------|-----|----|----|-------------|---------|
|              |                                   | Lecture         | Tutorial | Practical | In-Sem. Paper      | End-Sem. Paper | TW  | PR | OR |             |         |
| 314450       | Computer Network Technology       | 3               | --       | --        | 30                 | 70             | --  | -- | -- | 100         | 3       |
| 314451       | Systems Programming               | 4               | --       | --        | 30                 | 70             | --  | -- | -- | 100         | 4       |
| 314452       | Design and Analysis of Algorithms | 4               | --       | --        | 30                 | 70             | --  | -- | -- | 100         | 4       |
| 314453       | Cloud Computing                   | 3               | --       | --        | 30                 | 70             | --  | -- | -- | 100         | 3       |
| 314454       | Data Science & Big Data Analytics | 4               | --       | --        | 30                 | 70             | --  | -- | -- | 100         | 4       |
| 314455       | Software Laboratory-IV            | --              | --       | 2         | --                 | --             | 25  | -- | 25 | 50          | 1       |
| 314456       | Software Laboratory-V             | --              | --       | 4         | --                 | --             | 50  | 50 | -- | 100         | 2       |
| 314457       | Software Laboratory-VI            | --              | --       | 2         | --                 | --             | 25  | 25 | -- | 50          | 1       |
| 314458       | Project Based Seminar             | --              | 01       | --        | --                 | --             | --  | -- | 50 | 50          | 1       |
| 314459       | Audit Course 4                    | --              | --       | --        | --                 | --             | --  | -- | -- | Grade       |         |
|              | Total                             | 18              | 01       | 08        | 150                | 350            | 100 | 75 | 75 | 750         | 23      |
|              | Total of Part-II                  | 27 Hours        |          |           | 750                |                |     |    |    |             |         |

*Principal*  
Principal  
Sir Visvesvaraya Institute of Technology  
Chincholi, Nasik-422102


## S.E. (Information Technology) 2015 Course to be implemented from June 2016

## SEMESTER-I

| Subject Code | Subject   | Teaching Scheme |          |           | Examination Scheme |               |     |     |    | Total Marks | Credits |
|--------------|---|-----------------|----------|-----------|--------------------|---------------|-----|-----|----|-------------|---------|
|              |   | Lecture         | Tutorial | Practical | Theory Paper       | Theory Online | TW  | PR  | OR |             |         |
| 214441       | Discrete Structures                             | 4               | --       | --        | 50                 | 50            | --  | --  | -- | 100         | 4       |
| 214442       | Computer Organization & Architecture            | 4               | --       | --        | 50                 | 50            | --  | --  | -- | 100         | 4       |
| 214443       | Digital Electronics and Logic Design            | 4               | --       | --        | 50                 | 50            | --  | --  | -- | 100         | 4       |
| 214444       | Fundamentals of Data Structures                 | 4               | --       | --        | 50                 | 50            | --  | --  | -- | 100         | 4       |
| 214445       | Problem Solving and Object Oriented programming | 4               | --       | --        | 50                 | 50            | --  | --  | -- | 100         | 4       |
| 214446       | Digital Laboratory                              | --              | --       | 2         | --                 | --            | 25  | 50  | -- | 75          | 1       |
| 214447       | Programming Laboratory                          | --              | --       | 4         | --                 | --            | 25  | 50  | -- | 75          | 2       |
| 214448       | Object Oriented programming Lab.                | --              | --       | 2         | --                 | --            | 25  | 50  | -- | 75          | 1       |
| 214449       | Communication Skills                            | --              | --       | 2         | --                 | --            | 25  | --  | -- | 25          | 1       |
|              | Audit Course                                    | --              | --       | --        | --                 | --            | --  | --  | -- |             | Grade   |
|              | Total   | 20              | --       | 10        | 250                | 250           | 100 | 150 | -- | 750         | 25      |
|              | Total of Part-I                                 |                 |          | 30 Hours  |                    |               |     | 750 |    |             |         |

## SEMESTER - II

| Subject Code | Subject   | Teaching Scheme |          |           | Examination Scheme |               |     |     |    | Total Marks | Credits |
|--------------|---|-----------------|----------|-----------|--------------------|---------------|-----|-----|----|-------------|---------|
|              |   | Lecture         | Tutorial | Practical | Theory Paper       | Theory Online | TW  | PR  | OR |             |         |
| 207003       | Engineering Mathematics -III                      | 4               | 1        | --        | 50                 | 50            | 25  | --  | -- | 125         | 5       |
| 214450       | Computer Graphics                                 | 3               | --       | --        | 50                 | 50            | --  | --  | -- | 100         | 3       |
| 214451       | Processor Architecture and Interfacing            | 4               | --       | --        | 50                 | 50            | --  | --  | -- | 100         | 4       |
| 214452       | Data Structures & Files                           | 4               | --       | --        | 50                 | 50            | --  | --  | -- | 100         | 4       |
| 214453       | Foundations of Communication and Computer Network | 4               | --       | --        | 50                 | 50            | --  | --  | -- | 100         | 4       |
| 214454       | Processor Interfacing Laboratory                  | --              | --       | 4         | --                 | --            | 25  | 50  | -- | 75          | 2       |
| 214455       | Data Structure and Files Laboratory               | --              | --       | 4         | --                 | --            | 25  | 50  | -- | 75          | 2       |
| 214456       | Computer Graphics Laboratory                      | --              | --       | 2         | --                 | --            | 25  | 50  | -- | 75          | 1       |
|              | Audit Course                                      | --              | --       | --        | --                 | --            | --  | --  | -- |             | Grade   |
|              | Total   | 19              | 01       | 10        | 250                | 250           | 100 | 150 | -- | 750         | 25      |
|              | Total of Part-II                                  |                 |          | 30 Hours  |                    |               |     | 750 |    |             |         |

  
 Principal  
 Sir Visvesvaraya Institute of Technology  
 Chincholi, Nasik-422102

## B.E. (Information Technology) 2012 Course to be implemented from June 2015

## SEMESTER- I

| Subject Code | Subject                        | Teaching Scheme |           |          | Examination Scheme     |            |           |            | Total Marks |                          |
|--------------|--------------------------------|-----------------|-----------|----------|------------------------|------------|-----------|------------|-------------|--------------------------|
|              |                                | Lecture         | Practical | Tutorial | In-Semester Assessment | TW         | PR        | OR         |             | End Semester Examination |
|              |                                |                 |           |          | Phase - I              |            |           |            |             | Phase - II               |
| 414453       | Information and Cyber Security | 3               |           |          | 30                     |            |           |            | 70          | 100                      |
| 414454       | Software Modeling and Design   | 3               |           |          | 30                     |            |           |            | 70          | 100                      |
| 414455       | Machine Learning               | 4               |           |          | 30                     |            |           |            | 70          | 100                      |
| 414456       | Elective - I                   | 3               |           |          | 30                     |            |           |            | 70          | 100                      |
| 414457       | Elective - II                  | 3               |           |          | 30                     |            |           |            | 70          | 100                      |
| 414458       | Software Laboratory- III       | --              | 4         | --       |                        | 50         | --        | 50         |             | 100                      |
| 414459       | Software Laboratory - IV       | --              | 4         | --       |                        | --         | 50        | 50         |             | 100                      |
| 414460       | Project Phase I                | --              | --        | 2        |                        | 50         | --        | --         |             | 50                       |
| <b>Total</b> |                                | <b>16</b>       | <b>8</b>  | <b>2</b> | <b>150</b>             | <b>100</b> | <b>50</b> | <b>100</b> | <b>350</b>  | <b>750</b>               |

Software Laboratory- III: (Information and Cyber Security+ Machine Learning)

Software Laboratory- IV: (Software Modeling and Design + Testing)

| Elective- I                               | Elective - II                            |
|---|--|
| 414456 A : Soft Computing                 | 414457 A : Business Intelligence         |
| 414456 B : Usability Engineering          | 414457 B : Service Oriented Architecture |
| 414456 C : Modern Compilers               | 414457 C : E&M Governance                |
| 414456 D : Parallel Algorithms and Design | 414457 D : Geo Informatics Systems       |
| 414456 E : Cloud Computing                | 414457 E : Natural Language Processing   |



Principal

Sir Visvesvaraya Institute of Technology  
Chincholi, Nasik-422102

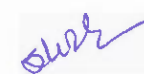
## SEMESTER – II

| Subject Code | Subject                  | Teaching Scheme |           |          | Examination Scheme     |            |           |            |                          | Total Marks |
|--------------|--------------------------|-----------------|-----------|----------|------------------------|------------|-----------|------------|--------------------------|-------------|
|              |                          | Lecture         | Practical | Tutorial | In-Semester Assessment | TW         | PR        | OR         | End Semester Examination |             |
|              |                          |                 |           |          | Phase - I              |            |           |            | Phase - II               |             |
| 414461       | Distributed System       | 3               |           |          | 30                     |            |           |            | 70                       | 100         |
| 414462       | Advanced Databases       | 3               |           |          | 30                     |            |           |            | 70                       | 100         |
| 414463       | Elective – III           | 3               | 2         | --       | 30                     | 25         | --        | 25         | 70                       | 150         |
| 414464       | Elective–IV              | 3               |           |          | 30                     |            |           |            | 70                       | 100         |
| 414465       | Software Laboratory - V  | --              | 2         | --       |                        | 25         | 25        | --         |                          | 50          |
| 414466       | Software Laboratory - VI | --              | 4         | --       |                        | --         | 50        | 50         |                          | 100         |
| 414467       | Project Work             | --              | --        | 6        |                        | 50         | --        | 100        |                          | 150         |
| <b>Total</b> |                          | <b>12</b>       | <b>8</b>  | <b>6</b> | <b>120</b>             | <b>100</b> | <b>75</b> | <b>175</b> | <b>280</b>               | <b>750</b>  |

Software Laboratory–V: (Distributed Systems)

Software Laboratory –VI: (Advanced Databases)

| Elective – III                              | Elective – IV                                 |
|---|---|
| 414463 A :Mobile Computing                  | 414464 A :Bio Informatics                     |
| 414463 B :Advanced Graphics and Animation   | 414464 B :Real Time and Embedded Systems      |
| 414463 C :Information Storage and Retrieval | 414464 C :Green IT - Principles and Practices |
| 414463 D :IT Enabled Services               | 414464 D :Internet of Things                  |
| 414463 E :Advanced Computer Networks        | 414464 E :Open Elective                       |



Principal

Sir Visvesvaraya Institute of Technology  
Chincholi,Nasik-422102

## T.E.(Information Technology) 2012 Course to be Implemented from June 2014

## SEMESTER – I

| Subject Code | Subject                                    | Teaching Scheme |           |          | Examination Scheme     |            |            |           |                          | Total Marks |
|--------------|--|-----------------|-----------|----------|------------------------|------------|------------|-----------|--------------------------|-------------|
|              |  | Lecture         | Practical | Tutorial | In-Semester Assessment | TW         | PR         | OR        | End Semester Examination |             |
|              |  |                 |           |          | Phase - I              |            |            |           | Phase - II               |             |
| 314441       | Computer Network Technology                | 3               |           |          | 30                     |            |            |           | 70                       | 100         |
| 314442       | Theory of Computation                      | 4               |           |          | 30                     |            |            |           | 70                       | 100         |
| 314443       | Database Management Systems                | 4               |           |          | 30                     |            |            |           | 70                       | 100         |
| 314444       | Software Engineering                       | 3               |           |          | 30                     |            |            |           | 70                       | 100         |
| 314445       | Web Engineering and Technology             | 3               |           |          | 30                     |            |            |           | 70                       | 100         |
| 314446       | Software Laboratory- I                     |                 | 4         |          |                        | 50         | 50         |           |                          | 100         |
| 314447       | Database Management Systems Laboratory     |                 | 4         |          |                        |            | 50         | 50        |                          | 100         |
| 314448       | Employability Skill Development Laboratory | 1               | 2         |          |                        | 50         |            |           |                          | 50          |
| <b>Total</b> |  | <b>18</b>       | <b>10</b> |          | <b>150</b>             | <b>100</b> | <b>100</b> | <b>50</b> | <b>350</b>               | <b>750</b>  |

Software Lab.-I Part-I : Assignments on Computer Network Technology and  
Part - II : Assignments on Web Engineering and Technology

## SEMESTER – II

| Subject Code | Subject                                | Teaching Scheme |           |          | Examination Scheme     |            |            |           |                          | Total Marks |
|--------------|--|-----------------|-----------|----------|------------------------|------------|------------|-----------|--------------------------|-------------|
|              |  | Lecture         | Practical | Tutorial | In-Semester Assessment | TW         | PR         | OR        | End Semester Examination |             |
|              |  |                 |           |          | Phase - I              |            |            |           | Phase - II               |             |
| 314449       | Design and Analysis of Algorithms      | 4               |           |          | 30                     |            |            |           | 70                       | 100         |
| 314450       | Systems Programming                    | 4               |           |          | 30                     |            |            |           | 70                       | 100         |
| 314451       | Operating System                       | 4               |           |          | 30                     |            |            |           | 70                       | 100         |
| 314452       | Multimedia Technologies                | 3               |           |          | 30                     |            |            |           | 70                       | 100         |
| 314453       | Information Tech Project Management    | 5               |           |          | 30                     |            |            |           | 70                       | 100         |
| 314454       | Operating System Laboratory            |                 | 4         |          |                        | 50         | 50         |           |                          | 100         |
| 314455       | Software Laboratory - II               |                 | 4         |          |                        |            | 50         | 50        |                          | 100         |
| 314456       | Seminar & Technical Communication Lab. |                 | 2         |          |                        | 50         |            |           |                          | 50          |
| <b>Total</b> |  | <b>18</b>       | <b>10</b> |          | <b>150</b>             | <b>100</b> | <b>100</b> | <b>50</b> | <b>350</b>               | <b>750</b>  |

Software Lab.-II Part-I : Assignments on Design and Analysis of Algorithms and  
Part - II : Assignments on Systems Programming

*Principal*  
Principal

Sir Visvesvaraya Institute of Technology  
Chincholi, Nasik-422102

**Structure of S.E. (Information Technology) 2012 Course  
w.e.f. Academic Year 2013 – 14**

**Part-I**

| Subject Code | Subject   | Teaching Scheme |           |           | Examination Scheme |               |            |            |           | Total Marks |
|--------------|---|-----------------|-----------|-----------|--------------------|---------------|------------|------------|-----------|-------------|
|              |   | Leet            | Tuto      | Pract     | Thoery Paper       | Thoery Online | TW         | Pract      | Oral      |             |
| 214441       | Discrete Structures                             | 4               | --        | --        | 50                 | 50            | --         | --         | --        | 100         |
| 214442       | Computer Organization                           | 4               | --        | --        | 50                 | 50            | --         | --         | --        | 100         |
| 214443       | Digital Electronics & Logic Design              | 3               | --        | --        | 50                 | 50            | --         | --         | --        | 100         |
| 214444       | Fundamentals of Data Structures                 | 4               | --        | --        | 50                 | 50            | --         | --         | --        | 100         |
| 214445       | Problem Solving and Object Oriented Programming | 4               | --        | --        | 50                 | 50            | --         | --         | --        | 100         |
| 214446       | Digital Electronics Laboratory                  | --              | --        | 4         | --                 | --            | --         | 50         | 50        | 100         |
| 214447       | Programming Laboratory                          | --              | --        | 4         | --                 | --            | 50         | 50         | --        | 100         |
| 214448       | Communication & Language Laboratory             | 1               | --        | 2         | --                 | --            | 50         | --         | --        | 050         |
|              | <b>Total</b>                                    | <b>20</b>       | <b>--</b> | <b>10</b> | <b>250</b>         | <b>250</b>    | <b>100</b> | <b>100</b> | <b>50</b> | <b>750</b>  |
|              | <b>Total of Part-I</b>                          | <b>30 Hrs</b>   |           |           | <b>750</b>         |               |            |            |           |             |

**Part-II**

| Subject Code | Subject                              | Teaching Scheme |           |           | Examination Scheme |               |            |            |           | Total Marks |
|--------------|--------------------------------------|-----------------|-----------|-----------|--------------------|---------------|------------|------------|-----------|-------------|
|              |                                      | Leet            | Tuto      | Pract     | Thoery Paper       | Thoery Online | TW         | Pract      | Oral      |             |
| 207003       | Engineering Maths-III                | 4               | 01        | --        | 50                 | 50            | 25         | --         | --        | 125         |
| 214449       | Computer Graphics                    | 4               | --        | --        | 50                 | 50            | --         | --         | --        | 100         |
| 214450       | Processor Architecture & Interfacing | 4               | --        | --        | 50                 | 50            | --         | --         | --        | 100         |
| 214451       | Data Structures & Files              | 4               | --        | --        | 50                 | 50            | --         | --         | --        | 100         |
| 214452       | Foundations of Computer Network      | 3               | --        | --        | 50                 | 50            | --         | --         | --        | 100         |
| 214453       | Processor Interfacing Laboratory     | --              | --        | 4         | --                 | --            | 25         | --         | 50        | 075         |
| 214454       | Data Structure & Files Laboratory    | --              | --        | 4         | --                 | --            | 25         | 50         | --        | 075         |
| 214455       | Computer Graphics Laboratory         | --              | --        | 2         | --                 | --            | 25         | 50         | --        | 075         |
|              | <b>Total</b>                         | <b>19</b>       | <b>01</b> | <b>10</b> | <b>250</b>         | <b>250</b>    | <b>100</b> | <b>100</b> | <b>50</b> | <b>750</b>  |
|              | <b>Total of Part-II</b>              | <b>30 Hrs</b>   |           |           | <b>750</b>         |               |            |            |           |             |

  
**Principal**  
 Sir Visvesvaraya Institute of Technology  
 Chincholi, Nasik-422102