# ANNA UNIVERSITY, CHENNAI AFFILIATED INSTITUTIONS

### B. E. AGRICULTURE ENGINEERING REGULATIONS- 2017

# CHOICE BASED CREDIT SYSTEM I TO VIII SEMESTERS CURRICULA & SYLLABI

#### SEMESTER I

| SL. | COURSE | COURSE TITLE  | CATEGORY | CONTACT | L  | т | Р  |  |  |  |  |
|-----|--------|---|----------|---------|----|---|----|--|--|--|--|
| No. | CODE   | COURSE TITLE  | CATEGORI | PERIODS | -  | ' | r  |  |  |  |  |
| THE | THEORY |   |          |         |    |   |    |  |  |  |  |
| 1.  | HS8151 | Communicative English                                   | HS       | 4       | 4  | 0 | 0  |  |  |  |  |
| 2.  | MA8151 | Engineering<br>Mathematics – I                          | BS       | 4       | 4  | 0 | 0  |  |  |  |  |
| 3.  | PH8151 | Engineering Physics                                     | BS       | 3       | 3  | 0 | 0  |  |  |  |  |
| 4.  | CY8151 | Engineering Chemistry                                   | BS       | 3       | 3  | 0 | 0  |  |  |  |  |
| 5.  | GE8151 | Problem Solving and<br>Python Programming               | ES       | 3       | 3  | 0 | 0  |  |  |  |  |
| 6.  | GE8152 | Engineering Graphics                                    | ES       | 6       | 2  | 0 | 4  |  |  |  |  |
| PRA | CTICAL |   | •        |         |    |   |    |  |  |  |  |
| 7.  | GE8161 | Problem Solving and<br>Python Programming<br>Laboratory | ES       | 4       | 0  | 0 | 4  |  |  |  |  |
| 8.  | BS8161 | Physics and Chemistry<br>Laboratory                     | BS       | 4       | 0  | 0 | 4  |  |  |  |  |
|     |        |   | TOTAL    | 31      | 19 | 0 | 12 |  |  |  |  |

#### SEMESTER II

| SL.<br>No. | COURSE | COURSE TITLE                                    | CATEGORY | CONTACT<br>PERIODS | L  | т | Р |
|------------|--------|---|----------|--------------------|----|---|---|
| THE        | ORY    |   |          |                    |    |   |   |
| 1.         | HS8251 | Technical English                               | HS       | 4                  | 4  | 0 | 0 |
| 2.         | MA8251 | Engineering<br>Mathematics – II                 | BS       | 4                  | 4  | 0 | 0 |
| 3.         | BE8251 | Basic Electrical and<br>Electronics Engineering | ES       | 3                  | 3  | 0 | 0 |
| 4.         | GE8292 | Engineering Mechanics                           | ES       | 5                  | 3  | 2 | 0 |
| 5.         | AI8201 | Principles and Practices of<br>Crop Production  | PC       | 3                  | 3  | 0 | 0 |
| PRA        | CTICAL |   |          |                    |    |   |   |
| 6.         | GE8261 | Engineering Practices<br>Laboratory             | ES       | 4                  | 0  | 0 | 4 |
| 7.         | Al8211 | Crop Husbandry<br>Laboratory                    | PC       | 4                  | 0  | 0 | 4 |
|            |        |   | TOTAL    | 27                 | 17 | 2 | 8 |

#### SEMESTER III

| SL.<br>No. | COURSE | COURSE TITLE                                     | CATEGORY | CONTACT<br>PERIODS | L  | т | Р | С  |  |  |
|------------|--------|--|----------|--------------------|----|---|---|----|--|--|
| THEC       | THEORY |  |          |                    |    |   |   |    |  |  |
| 1.         | MA8353 | Transforms and Partial<br>Differential Equations | BS       | 4                  | 4  | 0 | 0 | 4  |  |  |
| 2.         | AI8301 | Soil Science and<br>Engineering                  | PC       | 3                  | 3  | 0 | 0 | 3  |  |  |
| 3.         | AI8302 | Fluid Mechanics and<br>Hydraulics                | PC       | 4                  | 4  | 0 | 0 | 4  |  |  |
| 4.         | AI8303 | Theory of Machines                               | PC       | 3                  | 3  | 0 | 0 | 3  |  |  |
| 5.         | CE8304 | Surveying and Levelling                          | ES       | 3                  | 3  | 0 | 0 | 3  |  |  |
| 6.         | MF8491 | Thermodynamics                                   | ES       | 5                  | 3  | 2 | 0 | 4  |  |  |
| PRAC       | CTICAL |  | '        |                    |    |   |   |    |  |  |
| 7.         | CE8312 | Surveying and Levelling<br>Laboratory            | ES       | 4                  | 0  | 0 | 4 | 2  |  |  |
| 8.         | Al8311 | Fluid Mechanics<br>Laboratory                    | PC       | 2                  | 0  | 0 | 2 | 1  |  |  |
| 9.         | HS8381 | Interpersonal Skills /<br>Listening and Speaking | EEC      | 2                  | 0  | 0 | 2 | 1  |  |  |
|            |        |  | TOTAL    | 30                 | 20 | 2 | 8 | 25 |  |  |

#### SEMESTER IV

| SL.<br>No. | COURSE<br>CODE | COURSE TITLE                                  | CATEGORY | CONTACT<br>PERIODS | L  | Т | P | С  |  |  |  |
|------------|----------------|---|----------|--------------------|----|---|---|----|--|--|--|
| THEO       | THEORY         |   |          |                    |    |   |   |    |  |  |  |
| 1.         | MA8391         | Probability and Statistics                    | BS       | 4                  | 4  | 0 | 0 | 4  |  |  |  |
| 2.         | AI8401         | Unit Operations in<br>Agricultural Processing | PC       | 3                  | 3  | 0 | 0 | 3  |  |  |  |
| 3.         | AI8402         | Farm Tractors                                 | PC       | 3                  | 3  | 0 | 0 | 3  |  |  |  |
|            |                |   |          | _                  | _  | _ | _ |    |  |  |  |
| 4.         | CE8091         | Hydrology and Water<br>Resources Engineering  | PC       | 3                  | 3  | 0 | 0 | 3  |  |  |  |
| 5.         | CE8393         | Strength of Materials                         | ES       | 4                  | 4  | 0 | 0 | 4  |  |  |  |
| 6.         | GE8291         | Environmental Science and Engineering         | HS       | 3                  | 3  | 0 | 0 | 3  |  |  |  |
| PRAC       | TICAL          |   |          |                    |    |   |   |    |  |  |  |
| 7.         | AI8411         | Soil Science Laboratory                       | PC       | 2                  | 0  | 0 | 2 | 1  |  |  |  |
| 8.         | CE8481         | Strength of Materials<br>Laboratory           | ES       | 4                  | 0  | 0 | 4 | 2  |  |  |  |
| 9.         | HS8461         | Advanced Reading and Writing                  | EEC      | 2                  | 0  | 0 | 2 | 1  |  |  |  |
|            |                |   | TOTAL    | 28                 | 20 | 0 | 8 | 24 |  |  |  |

#### SEMESTER V

| SL.<br>No. | COURSE | COURSE TITLE  | CATEGORY | CONTACT<br>PERIODS | L  | т | Р  | С  |  |
|------------|--------|---|----------|--------------------|----|---|----|----|--|
| THEO       | THEORY |   |          |                    |    |   |    |    |  |
| 1.         | AI8501 | Irrigation and Drainage<br>Engineering                | PC       | 3                  | 3  | 0 | 0  | 3  |  |
| 2.         | AI8502 | Farm Machinery and<br>Equipment                       | PC       | 3                  | 3  | 0 | 0  | 3  |  |
| 3.         | AI8503 | Design of Basic Machine<br>Elements                   | PC       | 4                  | 4  | 0 | 0  | 4  |  |
| 4.         | AI8504 | Post Harvest Technology                               | PC       | 3                  | 3  | 0 | 0  | 3  |  |
| 5.         |        | Professional Elective - I                             | PE       | 3                  | 3  | 0 | 0  | 3  |  |
| 6.         |        | Open Elective - I*                                    | OE       | 3                  | 3  | 0 | 0  | 3  |  |
| PRAC       | TICAL  |   |          |                    |    |   |    |    |  |
| 7.         | AI8511 | Operation and<br>Maintenance of Farm<br>Machinery Lab | PC       | 4                  | 0  | 0 | 4  | 2  |  |
| 8.         | AI8512 | Post Harvest Engineering<br>Laboratory                | PC       | 4                  | 0  | 0 | 4  | 2  |  |
| 9.         | AI8513 | Irrigation Field Laboratory                           | PC       | 4                  | 0  | 0 | 4  | 2  |  |
| 10.        | HS8581 | Professional<br>Communication                         | EEC      | 2                  | 0  | 0 | 2  | 1  |  |
|            |        |   | TOTAL    | 33                 | 19 | 0 | 14 | 26 |  |

#### SEMESTER VI

| -    | COLUDER |  |          | CONTACT |    |    |    |    |  |
|------|---------|--|----------|---------|----|----|----|----|--|
| SL.  | COURSE  | COURSE TITLE                           | CATEGORY | CONTACT | L  | т  | P  | С  |  |
| No.  | CODE    | OOOROL IIILL                           | OATEGORT | PERIODS | _  | ٠. |    |    |  |
| THEO | THEORY  |  |          |         |    |    |    |    |  |
| 1.   | AI8601  | Groundwater and Well<br>Engineering    | PC       | 3       | 3  | 0  | 0  | 3  |  |
| 2.   | AI8602  | Food and Dairy<br>Engineering          | PC       | 3       | 3  | 0  | 0  | 3  |  |
| 3.   | AI8603  | Protected Cultivation                  | PC       | 3       | 3  | 0  | 0  | 3  |  |
| 4.   | AI8604  | Solar and Wind Energy<br>Engineering   | PC       | 3       | 3  | 0  | 0  |    |  |
| 5.   |         | Professional Elective - II             | PE       | 3       | 3  | 0  | 0  | 3  |  |
| 6.   |         | Professional Elective – III            | PE       | 3       | 3  | 0  | 0  | 3  |  |
| PRAC | TICAL   |  |          |         |    |    |    |    |  |
| 7.   | AI8611  | CAD for Agricultural<br>Engineering    | PC       | 4       | 0  | 0  | 4  | 2  |  |
| 8.   | AI8612  | Drawing of Farm<br>Structures          | PC       | 4       | 0  | 0  | 4  | 2  |  |
| 9.   | Al8613  | Study Tour(1 Week)                     | EEC      | 0       | 0  | 0  | 0  | 1  |  |
| 10.  | AI8614  | Food Process Engineering<br>Laboratory | PC       | 4       | 0  | 0  | 4  | 2  |  |
|      |         |  | TOTAL    | 30      | 18 | 0  | 12 | 25 |  |

## SEMESTER VII

|            |        | _  |          |                    |    |   |    |    |
|------------|--------|--|----------|--------------------|----|---|----|----|
| SL.<br>No. | COURSE | COURSE TITLE   | CATEGORY | CONTACT<br>PERIODS | L  | т | P  | С  |
| THEO       | RY     |  |          |                    |    |   |    |    |
| 1.         | Al8701 | Soil and Water<br>Conservation Engineering                     | PC       | 3                  | 3  | 0 | 0  | 3  |
| 2.         | AI8702 | Remote Sensing and<br>Geographical Information<br>System       | PC       | 3                  | 3  | 0 | 0  | 3  |
| 3.         | AI8703 | Bio-Energy Resource<br>Technology                              | PC       | 3                  | 3  | 0 | 0  | 3  |
| 4.         |        | Professional Elective – IV                                     | PE       | 3                  | 3  | 0 | 0  | 3  |
| 5.         |        | Open Elective - II*  | OE       | 3                  | 3  | 0 | 0  | 3  |
| PRAC       | TICAL  |  |          |                    |    |   |    |    |
| 6.         | Al8711 | GIS Laboratory for<br>Agricultural Engineers                   | PC       | 4                  | 0  | 0 | 4  | 2  |
| 7.         | Al8712 | Renewable Energy<br>Laboratory                                 | PC       | 4                  | 0  | 0 | 4  | 2  |
| 8.         | Al8713 | ICT in Agricultural<br>Engineering Lab<br>Excercises           | PC       | 2                  | 0  | 0 | 2  | 1  |
| 9.         | Al8714 | Industrial Training<br>(4 weeks During VI<br>Semester –Summer) | EEC      | 0                  | 0  | 0 | 0  | 2  |
|            |        |  | TOTAL    | 25                 | 15 | 0 | 10 | 22 |

#### SEMESTER VIII

| SL.<br>No. | COURSE<br>CODE | COURSE TITLE               | CATEGORY | CONTACT<br>PERIODS | L | Т | Р  | ( |  |  |  |
|------------|----------------|----------------------------|----------|--------------------|---|---|----|---|--|--|--|
| THEO       | THEORY         |                            |          |                    |   |   |    |   |  |  |  |
| 1.         |                | Professional Elective – V  | PE       | 3                  | 3 | 0 | 0  | 1 |  |  |  |
| 2.         |                | Professional Elective - VI | PE       | 3                  | 3 | 0 | 0  |   |  |  |  |
| PRAC       | TICAL          |                            |          |                    |   |   |    |   |  |  |  |
| 3.         | Al8811         | Project work               | EEC      | 20                 | 0 | 0 | 20 | 1 |  |  |  |
|            |                |                            | TOTAL    | 26                 | 6 | 0 | 20 | 1 |  |  |  |

**TOTAL NO. OF CREDITS: 185**