

## Subject Group Code and Subject Groups

| Sr. No.      | GROUP | Category  | Breakup of Credits (Total 160) |            |
|--------------|-------|---|--------------------------------|------------|
| 1            | A     | Humanities and Social Sciences including Management Courses (HSMC)  | 12                             | 10         |
| 2            | B     | Basic Science Courses (BSC)   | 25                             | 26         |
| 3            | C     | Engineering Science Courses including workshop, drawing, basics of electrical/mechanical/computer etc. (ESC)                          | 24                             | 26         |
| 4            | D     | Professional Core Courses (PCC)   | 48                             | 53         |
| 5            | E     | Professional Elective Courses relevant to chosen specialization/branch (PEC)  | 18                             | 18         |
| 6            | F     | Open subjects – Electives from other technical and /oremerging subjects (OEC)   | 18                             | 12         |
| 7            | G     | Project work, seminar and internship in industry or appropriate work place/ academic and research institutions in India/abroad (PROJ) | 15                             | 15         |
| 8            | H     | Mandatory Courses (MC)<br>[Environmental Sciences, Induction program, Indian Constitution, Essence of Indian Traditional Knowledge]   | (non-credit)                   |            |
| <b>Total</b> |       |   | <b>160</b>                     | <b>160</b> |

As per AICTE guidelines

**Syllabus Structure for First Year Engineering (Semester – I) (Mechanical, Auto, Civil, Chemical, BioTech) wef 2018 – 19**

| Name of the Course       | Group | Teaching Scheme   |                     |                      |           | Evaluation Scheme |     |            |           |            | Credits   |
|--------------------------|-------|-------------------|---------------------|----------------------|-----------|-------------------|-----|------------|-----------|------------|-----------|
|                          |       | Theory Hrs / week | Tutorial Hrs / week | Practical Hrs / week | Total     | Theory            |     | Practical  |           | Total      |           |
|                          |       |                   |                     |                      |           | ISE               | ESE | ICA        | ESE       |            |           |
| Chemistry                | B     | 3                 | 1                   | -                    | 4         | 40                | 60  | -          | -         | 100        | 4         |
| Mathematics – I          | B     | 3                 | 1                   | -                    | 4         | 40                | 60  | -          | -         | 100        | 4         |
| Engineering Graphics     | C     | 3                 | -                   | -                    | 3         | 40                | 60  | -          | -         | 100        | 3         |
| English                  | A     | 3                 | -                   | -                    | 3         | 40                | 60  | -          | -         | 100        | 3         |
| Chemistry Lab            | B     | -                 | -                   | 2                    | 2         | -                 | -   | 25         | -         | 25         | 1         |
| Engineering Graphics Lab | C     | -                 | -                   | 2                    | 2         | -                 | -   | 25         | 25        | 50         | 1         |
| English Lab              | A     | -                 | -                   | 2                    | 2         | -                 | -   | 25         | 25        | 50         | 1         |
| Workshop Practices       | C     | 1                 | -                   | 2                    | 3         | -                 | -   | 25         | 25        | 50         | 2         |
|                          |       | <b>13</b>         | <b>2</b>            | <b>8</b>             | <b>23</b> | 160               | 240 | <b>100</b> | <b>75</b> | <b>575</b> | <b>19</b> |

As per AICTE guidelines

Syllabus Structure for First Year Engineering (Semester – II) (Mechanical, Auto, Civil, Chemical, Bio Tech) wef 2018 – 19

| Name of the Course                               | Group | Teaching Scheme         |                           |                            |           | Evaluation Scheme |            |           |           |            | Credits   |
|--|-------|-------------------------|---------------------------|----------------------------|-----------|-------------------|------------|-----------|-----------|------------|-----------|
|  |       | Theory<br>Hrs /<br>week | Tutorial<br>Hrs /<br>week | Practical<br>Hrs /<br>week | Total     | Theory            |            | Practical |           | Total      |           |
|  |       |                         |                           |                            |           | ISE               | ESE        | ICA       | ESE       |            |           |
| Physics  | B     | 3                       | 1                         | -                          | 4         | 40                | 60         | -         | -         | 100        | 4         |
| Mathematics – II                                 | B     | 3                       | 1                         | -                          | 4         | 40                | 60         | -         | -         | 100        | 4         |
| Basic Electrical & Electronics Engineering       | C     | 3                       | 1                         | -                          | 4         | 40                | 60         | -         | -         | 100        | 4         |
| Programming for Problem Solving                  | C     | 3                       | -                         | -                          | 3         | 40                | 60         | -         | -         | 100        | 3         |
| Physics Lab                                      | B     | -                       | -                         | 2                          | 2         | -                 | -          | 25        | -         | 25         | 1         |
| Basic Electrical and Electronics Engineering Lab | C     | -                       | -                         | 2                          | 2         | -                 | -          | 25        | 25        | 50         | 1         |
| Programming for Problem Solving Lab              | C     | -                       | -                         | 2                          | 2         | -                 | -          | 25        | 25        | 50         | 1         |
| Induction Program                                | H     | -                       | -                         | -                          | -         | -                 | -          | -         | -         | -          | 0         |
|  |       | <b>12</b>               | <b>3</b>                  | <b>6</b>                   | <b>21</b> | <b>160</b>        | <b>240</b> | <b>75</b> | <b>50</b> | <b>525</b> | <b>18</b> |

ISE: Internal Sessional Examination

ESE: End Semester Examination

ICA: Internal Continuous Assessment

As per AICTE guidelines

Syllabus Structure for Second Year Engineering (Semester – III) (Civil) wef 2019 – 20

| Name of the Course                   | Group | Teaching Scheme         |                           |                            |           | Evaluation Scheme |            |                 |           |            | Credits   |
|--------------------------------------|-------|-------------------------|---------------------------|----------------------------|-----------|-------------------|------------|-----------------|-----------|------------|-----------|
|                                      |       | Theory<br>Hrs /<br>week | Tutorial<br>Hrs /<br>week | Practical<br>Hrs /<br>week | Total     | Theory            |            | Practical /Oral |           | Total      |           |
|                                      |       |                         |                           |                            |           | ISE               | ESE        | ICA             | ESE       |            |           |
| Biology                              | B     | 3                       | 1                         | -                          | 4         | 40                | 60         | -               | -         | 100        | 4         |
| Mechanics                            | C     | 3                       | -                         | -                          | 3         | 40                | 60         | -               | -         | 100        | 3         |
| Energy Science and Engineering       | C     | 3                       | -                         | -                          | 3         | 40                | 60         | -               | -         | 100        | 3         |
| Surveying & Geomatics                | D     | 3                       | -                         | -                          | 3         | 40                | 60         | -               | -         | 100        | 3         |
| Introduction to Civil Engineering    | A     | 3                       | -                         | -                          | 3         | 40                | 60         | -               | -         | 100        | 3         |
| Mechanics Lab                        | C     | -                       | -                         | 2                          | 2         | -                 | -          | 25              | 25 OR     | 50         | 1         |
| Surveying and Geomatics Lab          | D     | -                       | -                         | 2                          | 2         | -                 | -          | 25              | 25 PR     | 50         | 1         |
| Material, Testing & Evaluation I Lab | D     | 1                       | -                         | 2                          | 3         | -                 | -          | 25              | 25 OR     | 50         | 2         |
|                                      |       | <b>16</b>               | <b>1</b>                  | <b>6</b>                   | <b>23</b> | <b>200</b>        | <b>300</b> | 75              | <b>75</b> | <b>650</b> | <b>20</b> |

As per AICTE guidelines

Syllabus Structure for Second Year Engineering (Semester – IV) (Civil) wef 2019 – 20

| Name of the Course                           | Group | Teaching Scheme         |                           |                            |           | Evaluation Scheme |            |                |           |            | Credits   |
|--|-------|-------------------------|---------------------------|----------------------------|-----------|-------------------|------------|----------------|-----------|------------|-----------|
|  |       | Theory<br>Hrs /<br>week | Tutorial<br>Hrs /<br>week | Practical<br>Hrs /<br>week | Total     | Theory            |            | Practical/Oral |           | Total      |           |
|  |       |                         |                           |                            |           | ISE               | ESE        | ICA            | ESE       |            |           |
| Mathematic III                               | B     | 3                       | 1                         | -                          | 4         | 40                | 60         | -              | -         | 100        | 4         |
| Computer Aided Civil Engineering Drawing     | C     | 3                       | -                         | -                          | 3         | 40                | 60         | -              | -         | 100        | 3         |
| Introduction to Fluid Mechanics              | D     | 3                       | -                         | -                          | 3         | 40                | 60         | -              | -         | 100        | 3         |
| Introduction to Solid Mechanics              | D     | 3                       | -                         | -                          | 3         | 40                | 60         | -              | -         | 100        | 3         |
| Civil Engineering – Societal & Global Impact | A     | 3                       | -                         | -                          | 3         | 40                | 60         | -              | -         | 100        | 3         |
| Computer Aided Civil Engineering Lab         | C     | -                       | -                         | 2                          | 2         | -                 | -          | -              | -         | -          | 1         |
| Introduction to Fluid Mechanics Lab          | D     | -                       | -                         | 2                          | 2         | -                 | -          | 25             | 25 OR     | 50         | 1         |
| Material, Testing & Evaluation II            | D     | -                       | -                         | 2                          | 2         | -                 | -          | 25             | 25 OR     | 50         | 1         |
| Engineering Geology                          | D     | 1                       | -                         | 2                          | 3         | -                 | -          | 25             | 25 PR     | 50         | 2         |
| Environmental Science                        | H     | -                       | -                         | -                          | -         | -                 | -          | -              | -         | -          | -         |
|  |       | <b>16</b>               | <b>1</b>                  | <b>8</b>                   | <b>25</b> | <b>200</b>        | <b>300</b> | <b>75</b>      | <b>75</b> | <b>650</b> | <b>21</b> |

**ISE: Internal Sessional Examination**

**ESE: End Semester Examination**

**ICA: Internal Continuous Assessment**

**As per AICTE guidelines**

**Syllabus Structure for Third Year Engineering (Semester – V) (Civil) wef 2020 – 21**

| Name of the Course                                | Group | Teaching Scheme      |                           |                         |           | Evaluation Scheme |            |                |           |            | Credits   |
|---|-------|----------------------|---------------------------|-------------------------|-----------|-------------------|------------|----------------|-----------|------------|-----------|
|   |       | Theory<br>Hrs / week | Tutorial<br>Hrs /<br>week | Practical<br>Hrs / week | Total     | Theory            |            | Practical/Oral |           | Total      |           |
|   |       |                      |                           |                         |           | ISE               | ESE        | ICA            | ESE       |            |           |
| Mechanics of Materials                            | D     | 3                    | -                         | -                       | 3         | 40                | 60         | -              | -         | 100        | 3         |
| Hydraulic Engineering                             | D     | 3                    | -                         | -                       | 3         | 40                | 60         | -              | -         | 100        | 3         |
| Geotechnical Engineering                          | D     | 3                    | -                         | -                       | 3         | 40                | 60         | -              | -         | 100        | 3         |
| Professional Elective Course – I                  | E     | 3                    | -                         | -                       | 3         | 40                | 60         | -              | -         | 100        | 3         |
| Open Elective Course – I                          | F     | 3                    | -                         | -                       | 3         | 40                | 60         | -              | -         | 100        | 3         |
| Hydraulic Engineering LAB                         | D     | -                    | -                         | 2                       | 2         | -                 | -          | 25             | 25 OR     | 50         | 1         |
| Geotechnical Engineering LAB                      | D     | -                    | -                         | 2                       | 2         | -                 | -          | 25             | 25 OR     | 50         | 1         |
| Disaster preparedness & Planning Management (LAB) | D     | -                    | -                         | 2                       | 2         | -                 | -          | 25             | 25 OR     | 50         | 1         |
| Minor Project Stage I                             | G     | -                    | -                         | 6                       | 6         | -                 | -          | 50             | -         | 50         | 3         |
| Constitution of India                             | -     | -                    | -                         | -                       | -         | -                 | -          | -              | -         | -          | 0         |
|   |       | <b>15</b>            | <b>0</b>                  | <b>12</b>               | <b>27</b> | <b>200</b>        | <b>300</b> | <b>125</b>     | <b>75</b> | <b>700</b> | <b>21</b> |

**Note: There must be minimum four alternatives given for professional elective courses. The same must be minimum three for open elective course.**

As per AICTE guidelines

**Syllabus Structure for Third Year Engineering (Semester – VI) (Civil) wef 2020 – 21**

| Name of the Course              | Group | Teaching Scheme   |                     |                      |           | Evaluation Scheme |     |                |       |           | Credits   |
|---------------------------------|-------|-------------------|---------------------|----------------------|-----------|-------------------|-----|----------------|-------|-----------|-----------|
|                                 |       | Theory Hrs / week | Tutorial Hrs / week | Practical Hrs / week | Total     | Theory            |     | Practical/Oral |       | Total     |           |
|                                 |       |                   |                     |                      |           | ISE               | ESE | ICA            | ESE   |           |           |
| Structural Engineering          | D     | 3                 | -                   | -                    | 3         | 40                | 60  | -              | -     | 100       | 3         |
| Environmental Engineering       | D     | 3                 | -                   | -                    | 3         | 40                | 60  | -              | -     | 100       | 3         |
| Transportation Engineering      | D     | 3                 | -                   | -                    | 3         | 40                | 60  | -              | -     | 100       | 3         |
| Professional Elective course II | E     | 3                 | -                   | -                    | 3         | 40                | 60  | -              | -     | 100       | 3         |
| Open Elective Course II         | F     | 3                 | -                   | -                    | 3         | 40                | 60  | -              | -     | 100       | 3         |
| Structural Engineering Lab      | D     | -                 | -                   | 2                    | 2         | -                 | -   | 25             | 25 OR | 50        | 1         |
| Environmental Engineering Lab   | D     | -                 | -                   | 2                    | 2         | -                 | -   | 25             | 25 OR | 50        | 1         |
| Transportation Engineering      | D     | -                 | -                   | 2                    | 2         | -                 | -   | 25             | -     | 25        | 1         |
| Minor Project Stage II          | G     | -                 | -                   | 6                    | 6         | -                 | -   | 50             | 25 OR | 75        | 3         |
|                                 |       | <b>15</b>         |                     | <b>12</b>            | <b>27</b> |                   |     |                |       | <b>75</b> | <b>21</b> |

**Note:**

1. There must be minimum four alternatives given for professional elective courses. The same must be minimum three for open elective course.
  2. Note: Every student should undergo Summer Internship during Summer Vacation of at least THREE weeks duration. Credits for Summer Internship shall be included in Project (Stage – I) of Semester – VII.
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As per AICTE guidelines

Syllabus Structure for Fourth Year Engineering (Semester – VII) wef 2021 – 22

| Name of the Course                          | Group | Teaching Scheme   |                     |                      |           | Evaluation Scheme |            |                |            |            | Credits   |
|---|-------|-------------------|---------------------|----------------------|-----------|-------------------|------------|----------------|------------|------------|-----------|
|   |       | Theory Hrs / week | Tutorial Hrs / week | Practical Hrs / week | Total     | Theory            |            | Practical/Oral |            | Total      |           |
|   |       |                   |                     |                      |           | ISE               | ESE        | ICA            | ESE        |            |           |
| Hydrology & Water Resources Engineering     | D     | 3                 | -                   | -                    | 3         | 40                | 60         | -              | -          | 100        | 3         |
| Professional Elective Course III            | E     | 3                 | -                   | -                    | 3         | 40                | 60         | -              | -          | 100        | 3         |
| Professional Elective Course IV             | E     | 3                 | -                   | -                    | 3         | 40                | 60         | -              | -          | 100        | 3         |
| Open Elective Course III                    | F     | 3                 | -                   | -                    | 3         | 40                | 60         | -              | -          | 100        | 3         |
| Hydrology & Water Resources Engineering LAB | D     | -                 | -                   | 2                    | 2         | -                 | -          | 25             | 25 OR      | 50         | 1         |
| Construction Engineering & Management (LAB) | D     | 1                 | -                   | 2                    | 3         | -                 | -          | 25             | 25 OR      | 50         | 2         |
| Major Project Stage I                       | G     | -                 | -                   | 12                   | 12        | -                 | -          | 50             | 50 OR      | 100        | 6         |
| Essence of India Traditional Knowledge      |       | -                 | -                   | -                    | -         | -                 | -          | -              | -          | -          | 0         |
|   |       | <b>13</b>         |                     | <b>16</b>            | <b>29</b> | <b>160</b>        | <b>240</b> | <b>100</b>     | <b>100</b> | <b>600</b> | <b>21</b> |

**Note: There must be minimum four alternatives given for professional elective courses. The same must be minimum three for open elective course.**



As per AICTE guidelines

Syllabus Structure for Fourth Year Engineering (Semester – VIII) (Civil) wef 2021 – 22

| Name of the Course                            | Group | Teaching Scheme   |                     |                      |           | Evaluation Scheme |            |                |            |            | Credits   |
|---|-------|-------------------|---------------------|----------------------|-----------|-------------------|------------|----------------|------------|------------|-----------|
|   |       | Theory Hrs / week | Tutorial Hrs / week | Practical Hrs / week | Total     | Theory            |            | Practical/Oral |            | Total      |           |
|   |       |                   |                     |                      |           | ISE               | ESE        | ICA            | ESE        |            |           |
| Engineering Economy, Estimation & Costing     | D     | 3                 | -                   | -                    | 3         | 40                | 60         | -              | -          | 100        | 3         |
| Professional Elective Course V                | E     | 3                 | -                   | -                    | 3         | 40                | 60         | -              | -          | 100        | 3         |
| Professional Elective Course VI               | E     | 3                 | -                   | -                    | 3         | 40                | 60         | -              | -          | 100        | 3         |
| Open Elective Course IV                       | F     | 3                 | -                   | -                    | 3         | 40                | 60         | -              | -          | 100        | 3         |
| Engineering Economy, Estimation & Costing LAB | D     | -                 | -                   | 2                    | 2         | -                 | -          | 25             | 25 OR      | 50         | 1         |
| Remote sensing (LAB)                          | D     | 2                 | -                   | 2                    | 4         | -                 | -          | 25             | 25 OR      | 50         | 3         |
| Major Project Stage II                        | G     | -                 | -                   | 6                    | 6         | -                 | -          | 50             | 50 OR      | 100        | 3         |
|   |       | <b>14</b>         | <b>0</b>            | <b>12</b>            | <b>24</b> | <b>160</b>        | <b>240</b> | <b>100</b>     | <b>100</b> | <b>600</b> | <b>19</b> |

ISE: Internal Sessional Examination

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ICA: Internal Continuous Assessment

**Note: There must be minimum four alternatives given for professional elective courses. The same must be minimum three for open elective course.**

**As per AICTE guidelines**