

**DEPARTMENT OF PAPER TECHNOLOGY
INDIAN INSTITUTE OF TECHNOLOGY ROORKEE**

Program Code : **XXX M.Tech. (Packaging Technology)**
 Department : **Department of Paper Technology**
 Year : **I**
 Model : **2**

| Teaching Scheme | | | | | Contact Hours/Week | | | Exam Duration | |
|-----------------------------|--------------|--|--------------|-----------|--------------------|---|-----|---------------|-----------|
| S.No. | Subject Code | Course Title | Subject Area | Credits | L | T | P | Theory | Practical |
| Semester-I (Autumn) | | | | | | | | | |
| 1. | PPC-521 | Packaging Principles, Processes and Sustainability | PCC | 2 | 2 | 0 | 0 | 2 | 0 |
| 2. | PPC-523 | Packaging Materials | PCC | 3 | 3 | 0 | 2/2 | 3 | 0 |
| 3. | PPC-525 | Converting Processes for Packaging | PCC | 3 | 3 | 0 | 0 | 3 | 0 |
| 4. | PPC-527 | Package Performance | PCC | 3 | 0 | 0 | 6 | 0 | 0 |
| 5. | PPC-529 | Package Design | PCC | 2 | 2 | 0 | 0 | 2 | 0 |
| 6. | PPC-531 | Food and Pharmaceutical Packaging | PCC | 3 | 3 | 0 | 0 | 3 | 0 |
| 7. | | Social Science Course | SSC | 2 | - | - | - | - | - |
| | | Total | | 18 | | | | | |
| Semester-II (Spring) | | | | | | | | | |
| 1. | | Program Elective-I | PEC | 3 | - | - | - | - | - |
| 2. | | Program Elective-II | PEC | 3 | - | - | - | - | - |
| 3. | | Program Elective-III | PEC | 3 | - | - | - | - | - |
| 4. | | Program Elective-IV | PEC | 3 | - | - | - | - | - |
| 5. | | Program Elective-V | PEC | 3 | - | - | - | - | - |
| 6. | | Science, Technology, and Advanced Research-tools | STAR | 3 | - | - | - | - | - |
| 7. | PPC-700 | Seminar | SEM | 2 | - | - | - | - | - |
| | | Total | | 20 | | | | | |

**DEPARTMENT OF PAPER TECHNOLOGY
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Program Code : **XXX M.Tech. (Packaging Technology)**
 Department : **Department of Paper Technology**
 Year : **II**
 Model : **2**

| Teaching Scheme | | | | | Contact Hours/Week | | | Exam Duration | |
|-----------------------------|--------------|----------------------------|--------------|-----------|--------------------|---|---|---------------|-----------|
| S.No. | Subject Code | Course Title | Subject Area | Credits | L | T | P | Theory | Practical |
| Semester-I (Autumn) | | | | | | | | | |
| 1. | PPC-691 | Internship Social Activity | ISA | 5 | - | - | - | - | - |
| 2. | PPC-701A | Thesis Stage-I | THESIS | 10 | - | - | - | - | - |
| | | Total | | 15 | | | | | |
| Semester-II (Spring) | | | | | | | | | |
| 1. | PPC-701B | Thesis Stage-II | THESIS | 14 | - | - | - | - | - |
| | | Total | | 14 | | | | | |

| Summary | | | | |
|-----------------------------|-----------|----|----|----|
| Semester | 1 | 2 | 3 | 4 |
| Semester-wise Total Credits | 18 | 20 | 15 | 14 |
| Total Credits | 67 | | | |

M.Tech. (Packaging Technology)

Program Elective Courses

| Teaching Scheme | | | | | Contact Hours/Week | | | Exam Duration | |
|-----------------|--------------|---|--------------|---------|--------------------|---|-----|---------------|-----------|
| S.No. | Subject Code | Course Title | Subject Area | Credits | L | T | P | Theory | Practical |
| 1. | PPL-517 | Smart Packaging | PEC | 3 | 3 | 0 | 0 | 3 | 0 |
| 2. | PPL-518 | Robotics and Automated Packaging | PEC | 3 | 3 | 0 | 0 | 3 | 0 |
| 3. | PPL-519 | Distribution Packaging Dynamics | PEC | 3 | 3 | 0 | 0 | 3 | 0 |
| 4. | PPL-520 | Sustainable Packaging and Life Cycle Assessment | PEC | 3 | 3 | 0 | 0 | 3 | 0 |
| 5. | PPL-521 | Hazardous Material Packaging | PEC | 3 | 3 | 0 | 0 | 3 | 0 |
| 6. | PPL-522 | Industrial Packaging | PEC | 3 | 3 | 0 | 0 | 3 | 0 |
| 7. | PPL-523 | Lamination and Functional Coatings | PEC | 3 | 3 | 0 | 0 | 3 | 0 |
| 8. | PPL-524 | Nanotechnology Application in Packaging | PEC | 3 | 3 | 0 | 0 | 3 | 0 |
| 9. | PPL-525 | Economics in Packaging | PEC | 3 | 3 | 0 | 0 | 3 | 0 |
| 10. | PPL-526 | Advanced Packaging Materials Characterization | PEC | 3 | 3 | 0 | 2/2 | 3 | 0 |
| 11. | PPL-527 | Business Law | PEC | 3 | 3 | 0 | 0 | 3 | 0 |
| 12. | PPL-528 | Logistics and Supply Chain Management | PEC | 3 | 3 | 0 | 0 | 3 | 0 |
| 13. | PPL-529 | Industrial Design | PEC | 3 | 3 | 0 | 0 | 3 | 0 |
| 14. | PPL-530 | Printing Technology | PEC | 3 | 3 | 0 | 0 | 3 | 0 |
| 15. | PPL-531 | Advanced Numerical Methods and Statistics | PEC | 3 | 3 | 0 | 0 | 3 | 0 |

M.Tech. (Packaging Technology)

Science, Technology, and Advanced Research-tools Basket

| Teaching Scheme | | | | | Contact Hours/Week | | | Exam Duration | |
|------------------------|---------------------|-------------------------|---------------------|----------------|---------------------------|----------|----------|----------------------|------------------|
| S.No. | Subject Code | Course Title | Subject Area | Credits | L | T | P | Theory | Practical |
| 1. | PPT-501 | Pulp, Paper & Packaging | STAR | 3 | 3 | 0 | 0 | 3 | 0 |
| 2. | PPT-502 | Environmental Control | STAR | 3 | 3 | 0 | 0 | 3 | 0 |