

**HARCOURT BULTER TECHNICAL UNIVERSITY KANPUR**  
**SCHOOL OF CHEMICAL TECHNOLOGY**  
**DEPARTMENT OF CHEMICAL TECHNOLOGY - PAINT TECHNOLOGY**

**Semester wise Course Structure**

**M. Tech. Chemical Technology - Paint Technology**  
**(Applicable from Session 2020-2021 for new entrants)**

**Year I, Semester I**

(A Stream Only for students having B.Tech in Paint Technology background)

(B Stream Only for students having B.Tech in other than Paint Technology background)

(C Stream Only for students of M.Sc (Chemistry/Applied Chemistry /Industrial Chemistry) background)

| <b>Stream A</b> |             |              |   |           |           |          |          |                 |    |     |            |            |             |
|-----------------|-------------|--------------|---|-----------|-----------|----------|----------|-----------------|----|-----|------------|------------|-------------|
| Sr. No.         | Course Type | Subject Code | Course Title  | Credits   | Periods   |          |          | Sessional Marks |    |     |            | ESE        | Total Marks |
|                 |             |              |   |           | L         | T        | P        | MSE             | TA | Lab | Total      |            |             |
| 1.              | PCC         | TPT 551      | Advances in Chemistry and Technology of Film Formers              | 5         | 3         | 1        | 2        | 15              | 20 | 15  | 50         | 50         | 100         |
| 2.              | PCC         | TPT 553      | Pigmentation of Surface Coatings                                  | 4         | 3         | 1        | 0        | 30              | 20 | -   | 50         | 50         | 100         |
| 3.              | PCC         | TPT 555      | Advanced Modelling and Simulation of Chemical Engineering Systems | 4         | 3         | 1        | 0        | 30              | 20 | -   | 50         | 50         | 100         |
| 4.              | PEC         | TPT 557      | Advanced Chemical Reaction Engineering                            | 4         | 3         | 1        | 0        | 30              | 20 | -   | 50         | 50         | 100         |
| <b>Total</b>    |             |              |   | <b>17</b> | <b>12</b> | <b>4</b> | <b>2</b> |                 |    |     | <b>200</b> | <b>200</b> | <b>400</b>  |

**OR**

| <b>Stream B/C</b> |                  |              |                                      |           |           |          |          |                 |    |     |            |            |             |
|-------------------|------------------|--------------|--------------------------------------|-----------|-----------|----------|----------|-----------------|----|-----|------------|------------|-------------|
| Sr. No.           | Course Type      | Subject Code | Course Title                         | Credits   | Periods   |          |          | Sessional Marks |    |     |            | ESE        | Total Marks |
|                   |                  |              |                                      |           | L         | T        | P        | MSE             | TA | Lab | Total      |            |             |
| 1.                | PCC              | TPT 559      | Technology of Resins and Polymers    | 4         | 3         | 1        | 0        | 30              | 20 | -   | 50         | 50         | 100         |
| 2.                | PCC              | TPT 561      | Chemistry and Technology of Pigments | 5         | 3         | 1        | 2        | 15              | 20 | 15  | 50         | 50         | 100         |
| 3.                | PEC              | TPT 563      | Technology of Surface Coatings       | 4         | 3         | 1        | 0        | 30              | 20 | -   | 50         | 50         | 100         |
| 4.                | PCC              | TPT 565      | Industrial Stichiometry              | 4         | 3         | 1        | 0        | 30              | 20 | -   | 50         | 50         | 100         |
| 5.                | *MC (Non Credit) | BMA 551      | Engineering Mathematics              | 2         | 2         | 0        | 0        | -               | -  | -   | -          | -          | -           |
| <b>Total</b>      |                  |              |                                      | <b>17</b> | <b>12</b> | <b>4</b> | <b>2</b> |                 |    |     | <b>200</b> | <b>200</b> | <b>400</b>  |

\*Only for students of Non-mathematics background at graduation level

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**Semester wise Course Structure**

**M. Tech. Chemical Technology - Paint Technology**  
**(Applicable from Session 2020-2021 for new entrants)**

**Year I, Semester II**

| Sr. No.      | Course Type     | Subject Code | Course Title  | Credits   | Periods   |          |          | Sessional Marks |    |     |            | ESE        | Total Marks |
|--------------|-----------------|--------------|---|-----------|-----------|----------|----------|-----------------|----|-----|------------|------------|-------------|
|              |                 |              |   |           | L         | T        | P        | MSE             | TA | Lab | Total      |            |             |
| 1.           | PCC             | TPT 552      | Modern Evaluation Techniques of Surface Coatings                              | 4         | 3         | 1        | 0        | 30              | 20 | -   | 50         | 50         | 100         |
| 2.           | PCC             | TPT 554      | Modern Manufacturing Techniques of Surface Coatings                           | 4         | 3         | 1        | 0        | 30              | 20 | -   | 50         | 50         | 100         |
| 3.           | PCC             | TPT 556      | High Performance Coatings   | 5         | 3         | 1        | 2        | 15              | 20 | 15  | 50         | 50         | 100         |
| 4.           | PEC             | TPT 558      | Advances in Printing Inks   | 4         | 3         | 1        | 0        | 30              | 20 | -   | 50         | 50         | 100         |
|              |                 | TPT 560      | Advances in Packaging Technology  |           |           |          |          |                 |    |     |            |            |             |
| 5.           | MC (Non Credit) | TPT 562      | Audit Course<br>Critical review of research publication on one relevant Topic |           | 0         | 2        | 0        |                 |    |     |            |            |             |
| 6.           | MC (Non Credit) | TPT 564      | Audit Course<br>Research Methodology and IPR                                  |           | 0         | 1        | 0        |                 |    |     |            |            |             |
| <b>Total</b> |                 |              |   | <b>17</b> | <b>12</b> | <b>4</b> | <b>2</b> |                 |    |     | <b>200</b> | <b>200</b> | <b>400</b>  |

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**Semester wise Course Structure**

**M. Tech. Chemical Technology - Paint Technology**  
**(Applicable from Session 2021-2022)**

**Year II, Semester III**

| Sl. No.      | Course Type          | Subject Code       | Course Title   | Credits   | Periods  |          |           | Sessional Marks |    |     |            | ESE        | Total Marks |
|--------------|----------------------|--------------------|--|-----------|----------|----------|-----------|-----------------|----|-----|------------|------------|-------------|
|              |                      |                    |  |           | L        | T        | P         | MSE             | TA | Lab | Total      |            |             |
| 1.           | PCC                  | TPT 651            | Technology of Surfactants & Coating Additives  | 4         | 3        | 1        | 0         | 30              | 20 | -   | 50         | 50         | 100         |
| 2.           | PEC                  | TPT 653<br>TPT 655 | Advances in Surface Treatment & Coating application<br>OR<br>Eco-friendly & Specialty Coatings | 4         | 3        | 1        | 0         | 30              | 20 | -   | 50         | 50         | 100         |
| 3.           | MC (Non Credit)      | TPT 661            | <b>Audit Course</b><br>Critical Review of Research Publications on one Relevant Topic          |           | 0        | 2        | 0         |                 |    |     |            |            |             |
| 4.           | MC (Non Credit)      | TPT 663            | <b>Audit Course</b><br>Research Methodology and IPR  |           | 2        | 1        | 0         |                 |    |     |            |            |             |
| 5.           | Dissertation/Project | TPT 695            | *Dissertation/Project  | 2         | 0        | 0        | 4         | -               | 50 | -   | 50         | 50         | 100         |
| 6.           | Seminar              | TPT 697            | Seminar  | 4         | 0        | 0        | 8         | -               | 50 | -   | 50         | 50         | 100         |
| <b>Total</b> |                      |                    |  | <b>14</b> | <b>8</b> | <b>5</b> | <b>12</b> |                 |    |     | <b>200</b> | <b>200</b> | <b>400</b>  |

\*Dissertation to be continued in fourth semester.

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**M. Tech. Chemical Technology - Paint Technology**  
**(Applicable from Session 2021-2022)**

**Year II, Semester IV**

| Sl. No. | Course Type            | Subject Code | Course Title         | Credits   | Periods  |          |           | Sessional Marks |           |     |           | ESE       | Total Marks |
|---------|------------------------|--------------|----------------------|-----------|----------|----------|-----------|-----------------|-----------|-----|-----------|-----------|-------------|
|         |                        |              |                      |           | L        | T        | P         | MSE             | TA        | Lab | Total     |           |             |
| 1.      | Dissertation / Project | TPT 698      | Dissertation/Project | 12        | 0        | 0        | 24        | -               | 50        | -   | 50        | 50        | 100         |
|         |                        | <b>Total</b> |                      | <b>12</b> | <b>0</b> | <b>0</b> | <b>24</b> |                 | <b>50</b> |     | <b>50</b> | <b>50</b> | <b>100</b>  |