



LOKMANYA TILAK JANKALYAN SHIKSHAN SANSTHA'S  
**PRIYADARSHINI INSTITUTE  
OF ENGINEERING & TECHNOLOGY**

Priyadarshini Campus, Digdoh Hills, Hingna Road, Nagpur - 440 019 (India)  
Phone : +91 - 7104-244463, 244470 Fax : +91 - 7104-244458  
E-Mail : principal.piet@ltjss.net principalpiet1@gmail.com  
Website : www.piet.edu.in



### OFFICIAL TRANSCRIPT

This is to certify that **Mr. Dhiraj Sanjay Powar** was a student of Priyadarshini Institute of Engineering & Technology College from **July 2014 to June 2018** for the four year bachelor's of degree course - **Bachelor of Technology Biotechnology from Rashtrasant Tukadoji Maharaj Nagpur University**. He has completed his degree in 2018.

The following is the detailed examination scheme prescribed for the Bachelor's of technology Biotechnology of Rashtrasant Tukadoji Maharaj Nagpur University along with the performance in the examination.

**Name** : **Dhiraj Sanjay Powar**

**University Enrolment Number** : **RTMNU/A15/45723**

**Period of Study** : **July 2014 to June 2018**

1. All subjects are compulsory except in the final year, where the student chooses a project and one elective in each seventh and eighth semester. The medium of instruction is **English**.
2. The university follows a semester pattern. Exams are held twice a year in summer and winter. Each semester is of sixteen weeks duration.
3. Each lecture is one-hour duration & Practical is two-hour duration.
4. Theory examination requires a minimum of 40% marks for passing. Oral and Practical examination require a minimum of 50% marks for passing.
5. A student can be awarded a maximum of 15 marks to the total marks of the year as grace in order to clear a subject, as per ordinance No. 3 of 2007 of Rashtrasant Tukadoji Maharaj Nagpur University.
6. The Grade Point Average (GPA) system is followed by the university. Absolute marks are given in each subject. Divisions are awarded based on SGPA in 7<sup>th</sup> & 8<sup>th</sup> semesters as follows:

**CGPA**

8.25 And above  
6.75 to 8.24  
Below 6.74

**Division**

Distinction  
First Class  
Pass

**Dr. V. M. Nanoti**  
Principal  
Priyadarshini Institute of Engineering & Technology, Nagpur



**LOKMANYA TILAK JANKALYAN SHIKSHAN SANSTHA**

Lokmanya Tilak Bhavan, Laxmi Nagar, Nagpur - 440 022, Maharashtra, INDIA. Tel : +91-712-2230665, 2245121. Fax No. : + 91-712 2221430. Website : www.ltjss.net



LOKMANYA TILAK JANKALYAN SHIKSHAN SANSTHA'S  
**PRIYADARSHINI INSTITUTE  
OF ENGINEERING & TECHNOLOGY**

Priyadarshini Campus, Digdoh Hills, Hingna Road, Nagpur - 440 019 (India)  
Phone : +91 - 7104-244463, 244470 Fax : +91 - 7104-244458  
E-Mail : principal.piet@ltjss.net principalpiet1@gmail.com  
Website : www.piet.edu.in



### TRANSCRIPT

(Faculty of Engineering & Technology)  
**FIRST Semester Examination for the Degree of Bachelor of Technology (Biotechnology),  
WINTER 2014 (CREDIT BASED SYSTEM).**

**Student Name:** Dhiraj Sanjay Powar **Roll No:** 38611 **Medium:** ENGLISH  
**Enrolment No. :** RTMNU/A15/45723 **Branch:** Biotechnology.

| Subjects                    | Teaching Scheme<br>Hours per Week |          |           |           | Max. Marks |               | Marks Obtained |               |
|-----------------------------|-----------------------------------|----------|-----------|-----------|------------|---------------|----------------|---------------|
|                             | L                                 | T        | P         | Total     | Theor<br>y | Practic<br>al | Theor<br>y     | Practic<br>al |
| Engineering Mathematics-I   | 4                                 | 1        | -         | 5         | 100        | -             | 78             | -             |
| Applied Inorganic Chemistry | 4                                 | 1        | 2         | 7         | 100        | 50            | 78             | 47            |
| Applied Organic Chemistry   | 4                                 | 1        | 2         | 7         | 100        | 50            | 70             | 49            |
| Applied Physics -I          | 4                                 | 1        | 2         | 7         | 100        | 50            | 48             | 46            |
| Applied Mechanics           | 4                                 | 1        | 2         | 7         | 100        | -             | 79             | -             |
| Communication Skills        | 4                                 | 1        | 2         | 7         | -          | 50            | -              | 44            |
| Engineering Graphics        | 1                                 | -        | 1         | 2         | -          | 50            | -              | 44            |
| Computational Skills        | 1                                 | -        | 1         | 2         | -          | 25            | -              | 25            |
| <b>Total</b>                | <b>26</b>                         | <b>6</b> | <b>12</b> | <b>44</b> | <b>500</b> | <b>275</b>    | <b>353</b>     | <b>255</b>    |

**Total Marks obtained :** 608 out of 775  
**Percentage :** 78.45%  
**SGPA :** 9.00  
**Result :** PASS

Abbreviations used:  
L- Lecture, T – Tutorial, P- Practical

Dr. V. M. Napti  
Principal  
Priyadarshini Institute of Engineering & Technology, Nagpur



**LOKMANYA TILAK JANKALYAN SHIKSHAN SANSTHA**

Lokmanya Tilak Bhavan, Laxmi Nagar, Nagpur - 440 022, Maharashtra, INDIA. Tel : +91-712-2230665, 2245121. Fax No. : +91-712 2221430. Website : www.ltjss.net



LOKMANYA TILAK JANKALYAN SHIKSHAN SANSTHA'S  
**PRIYADARSHINI INSTITUTE  
OF ENGINEERING & TECHNOLOGY**

Priyadarshini Campus, Digdoh Hills, Hingna Road, Nagpur - 440 019 (India)  
Phone : +91 - 7104-244463, 244470 Fax : +91 - 7104-244458  
E-Mail : principal.piet@ltjss.net principalpiet1@gmail.com  
Website : www.piet.edu.in



## TRANSCRIPT

(Faculty of Engineering & Technology)

SECOND Semester Examination for the Degree of Bachelor of Technology (Biotechnology),  
SUMMER 2015 (CREDIT BASED SYSTEM)

Student Name: Dhiraj Sanjay Powar  
Enrolment No. : RTMNU/A15/45723

Roll No: 4750 Medium: ENGLISH  
Branch: Biotechnology.

| Subjects                     | Teaching Scheme<br>Hours per Week |   |    |       | Max. Marks |               | Marks Obtained |               |
|------------------------------|-----------------------------------|---|----|-------|------------|---------------|----------------|---------------|
|                              | L                                 | T | P  | Total | Theor<br>y | Practic<br>al | Theor<br>y     | Practic<br>al |
| Engineering Mathematics-II   | 4                                 | 1 | -  | 5     | 100        | -             | 81             | -             |
| Applied Physical Chemistry   | 4                                 | 1 | 2  | 7     | 100        | 50            | 63             | 43            |
| Applied Physics-II           | 4                                 | 1 | 2  | 7     | 100        | 50            | 75             | 40            |
| Basic Electrical Engineering | 4                                 | 1 | 2  | 7     | 100        | 50            | 80             | 44            |
| Basic Mechanical Engineering | 4                                 | 1 | -  | 5     | 100        | -             | 66             | -             |
| Ethical Science              | -                                 | - | 2  | 2     | 50         | -             | 48             | -             |
| Workshop                     | -                                 | - | 2  | 2     |            | 50            |                | 44            |
| Total                        | 20                                | 5 | 10 | 35    | 550        | 200           | 413            | 171           |

Total Marks obtained : 584 out of 750  
Percentage : 77.86 %  
SGPA : 9.32  
Result : PASS

Abbreviations used:  
L- Lecture, T – Tutorial, P- Practical

Dr. V. M. Nanoti  
Principal  
Priyadarshini Institute of Engineering & Technology, Nagpur



LOKMANYA TILAK JANKALYAN SHIKSHAN SANSTHA

Lokmanya Tilak Bhavan, Laxmi Nagar, Nagpur - 440 022. Maharashtra, INDIA. Tel : +91-712-2230665, 2245121. Fax No. : + 91-712 2221430. Website : www.ltjss.net



LOKMANYA TILAK JANKALYAN SHIKSHAN SANSTHA'S  
**PRIYADARSHINI INSTITUTE  
OF ENGINEERING & TECHNOLOGY**

Priyadarshini Campus, Digdoh Hills, Hingna Road, Nagpur - 440 019 (India)  
Phone : +91 - 7104-244463, 244470 Fax : +91 - 7104-244458  
E-Mail : principal.piet@ltjss.net principalpiet1@gmail.com  
Website : www.piet.edu.in



## TRANSCRIPT

(Faculty of Engineering & Technology)

**THIRD Semester Examination for the Degree of Bachelor of Technology (Biotechnology),  
WINTER 2015 (CREDIT BASED SYSTEM).**

**Student Name:** Dhiraj Sanjay Powar **Roll No:** 88258 **Medium:** ENGLISH  
**Enrolment No. :** RTMNU/A15/4572 **Branch:** Biotechnology.

| Subjects                       | Teaching Scheme<br>Hours per Week |          |          |           | Max. Marks |               | Marks Obtained |               |
|--------------------------------|-----------------------------------|----------|----------|-----------|------------|---------------|----------------|---------------|
|                                | L                                 | T        | P        | Total     | Theor<br>y | Practica<br>l | Theor<br>y     | Practica<br>l |
| Microbiology                   | 4                                 | 1        | -        | 5         | 100        | 50            | 63             | 40            |
| Bioprocess Calculation         | 4                                 | 1        | 2        | 7         | 100        | -             | 71             | -             |
| Bio Organic Chemistry          | 4                                 | 1        | 2        | 7         | 100        | 50            | 71             | 42            |
| Applied Mathematics-III        | 4                                 | 1        | 2        | 7         | 100        | -             | 75             | -             |
| Applied Physical Chemistry -II | 4                                 | 1        | 2        | 7         | 100        | 50            | 80             | 45            |
| <b>Total</b>                   | <b>20</b>                         | <b>5</b> | <b>8</b> | <b>33</b> | <b>500</b> | <b>150</b>    | <b>360</b>     | <b>127</b>    |

**Total Marks obtained :** 487 out of 650  
**Percentage :** 74.92 %  
**SGPA :** 9.08  
**Result :** PASS

Abbreviations used:  
L- Lecture, T – Tutorial, P- Practical

Dr. V. M. Nanoti  
Principal  
Priyadarshini Institute of Engineering & Technology, Nagpur



**LOKMANYA TILAK JANKALYAN SHIKSHAN SANSTHA**

Lokmanya Tilak Bhavan, Laxmi Nagar, Nagpur - 440 022. Maharashtra, INDIA. Tel : +91-712-2230665, 2245121. Fax No. : + 91-712 2221430. Website : www.ltjss.net



LOKMANYA TILAK JANKALYAN SHIKSHAN SANSTHA'S  
**PRIYADARSHINI INSTITUTE  
OF ENGINEERING & TECHNOLOGY**  
Priyadarshini Campus, Digdoh Hills, Hingna Road, Nagpur - 440 019 (India)  
Phone : +91 - 7104-244463, 244470 Fax : +91 - 7104-244458  
E-Mail : principal.piet@ltjss.net principalpiet1@gmail.com  
Website : www.piet.edu.in



## TRANSCRIPT

(Faculty of Engineering & Technology)  
FOURTH Semester Examination for the Degree of Bachelor of Technology (Biotechnology),  
SUMMER 2016 (CREDIT BASED SYSTEM).

Student Name: Dhiraj Sanjay Powar Roll No: 136552 Medium: ENGLISH  
Enrolment No.: RTMNU/A15/45723 Branch: Biotechnology.

| Subjects                        | Teaching Scheme<br>Hours per Week |          |          |           | Max. Marks |            | Marks Obtained |            |
|---------------------------------|-----------------------------------|----------|----------|-----------|------------|------------|----------------|------------|
|                                 | L                                 | T        | P        | Total     | Theor y    | Practic al | Theor y        | Practic al |
| Biochemistry Metabolism         | 4                                 | 1        | -        | 5         | 100        | 50         | 59             | 41         |
| Plant Utility                   | 4                                 | 1        | 2        | 7         | 100        | -          | 64             | -          |
| Analytical Biotechnology        | 4                                 | 1        | 2        | 7         | 100        | 50         | 77             | 43         |
| Cell Biology                    | 4                                 | 1        | -        | 5         | 100        | -          | 64             | -          |
| Electronics And Instrumentation | 4                                 | 1        | -        | 5         | 100        | 50         | 41             | 39         |
| <b>Total</b>                    | <b>20</b>                         | <b>5</b> | <b>4</b> | <b>29</b> | <b>500</b> | <b>150</b> | <b>305</b>     | <b>123</b> |

Total Marks obtained : 428 out of 650

Percentage : 65.84 %

SGPA : 8.00

Result : PASS

Abbreviations used:

L- Lecture, T - Tutorial, P- Practical, D - Drawing

Dr. V. M. Nanoti

Principal

Priyadarshini Institute of Engineering & Technology, Nagpur



LOKMANYA TILAK JANKALYAN SHIKSHAN SANSTHA

Lokmanya Tilak Bhavan, Laxmi Nagar, Nagpur - 440 022. Maharashtra, INDIA. Tel : +91-712-2230665, 2245121. Fax No. : +91-712 2221430. Website : www.ltjss.net



## TRANSCRIPT

(Faculty of Engineering & Technology)  
FIFTH Semester Examination for the Degree of Bachelor of Technology (Biotechnology),  
WINTER 2016 (CREDIT BASED SYSTEM).

Student Name: Dhiraj Sanjay Powar Roll No: 188815 Medium: ENGLISH  
Enrolment No.: RTMNU/A15/45723 Branch: Biotechnology.

| Subjects                            | Teaching Scheme<br>Hours per Week |          |          |           | Max. Marks |            | Marks Obtained |            |
|-------------------------------------|-----------------------------------|----------|----------|-----------|------------|------------|----------------|------------|
|                                     | L                                 | T        | P        | Total     | Theor y    | Practic al | Theor y        | Practic al |
| Fluid Mechanics and Solid Handling  | 4                                 | 1        | -        | 5         | 100        | 50         | 77             | 38         |
| Bio Chemical Reaction Engineering-I | 4                                 | 1        | 2        | 7         | 100        | -          | 63             | -          |
| Heat Transfer in Biotechnology      | 4                                 | 1        | 2        | 7         | 100        | 50         | 68             | 46         |
| Molecular Biology                   | 4                                 | 1        | 2        | 7         | 100        | 50         | 60             | 42         |
| Immunology                          | 4                                 | 1        | 2        | 7         | 100        | -          | 61             | -          |
| <b>Total</b>                        | <b>20</b>                         | <b>5</b> | <b>8</b> | <b>33</b> | <b>500</b> | <b>150</b> | <b>329</b>     | <b>126</b> |

Total Marks obtained : 455 out of 650  
Percentage : 70.00%  
SGPA : 8.38  
Result : PASS

Abbreviations used:  
L- Lecture, T - Tutorial, P- Practical

Dr. V. M. Nanoti  
Principal  
Priyadarshini Institute of Engineering & Technology, Nagpur





## TRANSCRIPT

(Faculty of Engineering & Technology)  
SIXTH Semester Examination for the Degree of Bachelor of Technology (Biotechnology),  
SUMMER 2017 (CREDIT BASED SYSTEM).

Student Name: Dhiraj Sanjay Powar Roll No: 216619 Medium: ENGLISH  
Enrolment No. : RTMNU/A15/45723 Branch: Biotechnology

| Subjects                              | Teaching Scheme<br>Hours per Week |          |          |           | Max. Marks |            | Marks Obtained |            |
|---------------------------------------|-----------------------------------|----------|----------|-----------|------------|------------|----------------|------------|
|                                       | L                                 | T        | P        | Total     | Theor y    | Practic al | Theor y        | Practic al |
| Genetic Engineering                   | 4                                 | 1        | -        | 5         | 100        | -          | 71             | -          |
| Mass Transfer in Biotechnology        | 4                                 | 1        | 2        | 7         | 100        | 50         | 76             | 42         |
| Biochemical Reaction Engineering - II | 4                                 | 1        | -        | 5         | 100        | -          | 64             | -          |
| Process control in Biotechnology      | 4                                 | 1        | 2        | 7         | 100        | 50         | 67             | 44         |
| Industrial Biotechnology              | 2                                 | 1        | -        | 3         | 100        | 50         | 60             | 46         |
| Communication English                 | 1                                 | 1        | -        | 2         | 50         | -          | 41             | -          |
| <b>Total</b>                          | <b>19</b>                         | <b>6</b> | <b>4</b> | <b>29</b> | <b>550</b> | <b>150</b> | <b>379</b>     | <b>132</b> |

Total Marks obtained : 511 out of 700  
Percentage : 73.00 %  
SGPA : 8.83  
Result : PASS

Abbreviations used:  
L- Lecture, T - Tutorial, P- Practical

Dr. V. M. Nanoti  
Principal  
Priyadarshini Institute of Engineering & Technology, Nagpur





LOKMANYA TILAK JANKALYAN SHIKSHAN SANSTHA'S  
**PRIYADARSHINI INSTITUTE  
OF ENGINEERING & TECHNOLOGY**  
Priyadarshini Campus, Digdoh Hills, Hingna Road, Nagpur - 440 019 (India)  
Phone : +91 - 7104-244463, 244470 Fax : +91 - 7104-244458  
E-Mail : principal.piet@tjss.net principalpiet1@gmail.com  
Website : www.piet.edu.in



## TRANSCRIPT

(Faculty of Engineering & Technology)  
SEVENTH Semester Examination for the Degree of Bachelor of Technology (Biotechnology),  
WINTER 2017 (CREDIT BASED SYSTEM).

Student Name: Dhiraj Sanjay Powar  
Enrolment No.: RTMNU/A15/45723

Roll No: 507019 Medium: ENGLISH  
Branch: Biotechnology

| Subjects                                               | Teaching Scheme<br>Hours per Week |   |   |       | Max. Marks |            | Marks Obtained |            |
|--------------------------------------------------------|-----------------------------------|---|---|-------|------------|------------|----------------|------------|
|                                                        | L                                 | T | P | Total | Theor y    | Practic al | Theor y        | Practic al |
| Environment and Biotechnology                          | 4                                 | 1 | 2 | 7     | 100        | -          | 76             | -          |
| Cryogenic Application In Biotechnology                 | 4                                 | 1 | 2 | 7     | 100        | -          | 66             | -          |
| Tissue Culture Technology                              | 4                                 | 1 | - | 5     | 100        | 50         | 64             | 37         |
| Bioprocess and Equipment Design                        | 4                                 | 1 | - | 5     | 100        | 50         | 74             | 41         |
| Bioindustry Economics and Entrepreneurship Development | 4                                 | 1 | - | 5     | 100        | -          | 69             | -          |
| Seminar Industrial Training and Tour Report            | -                                 | - | 3 | 3     | -          | 100        | -              | 79         |
| Total                                                  | 20                                | 5 | 7 | 32    | 500        | 200        | 349            | 157        |

Total Marks obtained : 506 out of 700  
Percentage : 72.28%  
SGPA : 8.29  
Result : PASS

Abbreviations used:  
L- Lecture, T - Tutorial, P- Practical.

Dr. V. M. Nanoti  
Principal  
Priyadarshini Institute of Engineering & Technology, Nagpur  
Engineering & Technology, Nagpur



LOKMANYA TILAK JANKALYAN SHIKSHAN SANSTHA

Lokmanya Tilak Bhavan, Laxmi Nagar, Nagpur - 440 022. Maharashtra, INDIA. Tel : +91-712-2230665, 2245121. Fax No. : + 91-712 2221430. Website : www.tjss.net



LOKMANYA TILAK JANKALYAN SHIKSHAN SANSTHA'S  
**PRIYADARSHINI INSTITUTE  
OF ENGINEERING & TECHNOLOGY**

Priyadarshini Campus, Digdoh Hills, Hingna Road, Nagpur - 440 019 (India)  
Phone : +91 - 7104-244463, 244470 Fax : +91 - 7104-244458  
E-Mail : principal.piet@ltjss.net principalpiet1@gmail.com  
Website : www.piet.edu.in



## TRANSCRIPT

(Faculty of Engineering & Technology)

**EIGHTH Semester Examination for the Degree of Bachelor of Technology (Biotechnology),  
SUMMER 2018 (CREDIT BASED SYSTEM).**

**Student Name:** Dhiraj Sanjay Powar  
**Enrolment No. :** RTMNU/A15/45723

**Roll No:** 658015 **Medium:** ENGLISH  
**Branch:** Biotechnology.

| Subjects                                       | Teaching Scheme<br>Hours per Week |          |          |           | Max. Marks |            | Marks Obtained |            |
|------------------------------------------------|-----------------------------------|----------|----------|-----------|------------|------------|----------------|------------|
|                                                | L                                 | T        | P        | Total     | Theor y    | Practic al | Theor y        | Practic al |
| Downstream Processing in Biotechnology         | 4                                 | 1        | 2        | 7         | 100        | -          | 74             | -          |
| Computational Techniques and Process Modelling | 4                                 | 1        | 2        | 7         | 100        | -          | 80             |            |
| Bioinformatics                                 | 4                                 | 1        | -        | 5         | 100        | 50         | 62             | 44         |
| Pharmaceutical Biotechnology                   | 4                                 | 1        | -        | 5         | 100        | -          | 71             | -          |
| Project Work/ Dissertation                     | -                                 | -        | 5        | 5         | -          | 200        | -              | 177        |
| <b>Total</b>                                   | <b>16</b>                         | <b>4</b> | <b>9</b> | <b>29</b> | <b>400</b> | <b>250</b> | <b>287</b>     | <b>221</b> |

**Total Marks obtained** : 508 out of 650  
**Percentage** : 78.15%  
**SGPA** : 9.58  
**Result** : PASS

**Semester VII (SGPA)** : 8.29  
**Semester VIII (SGPA)** : 9.58

**CGPA** : 8.88  
**Division** : Distinction

Abbreviations used:

L- Lecture, T - Tutorial, P- Practical

Dr. V. M. Nanoti  
Principal  
Priyadarshini Institute of Engineering & Technology, Nagpur  
Engineering & Technology, Nagpur



**LOKMANYA TILAK JANKALYAN SHIKSHAN SANSTHA**

Lokmanya Tilak Bhavan, Laxmi Nagar, Nagpur - 440 022. Maharashtra, INDIA. Tel : +91-712-2230665, 2245121. Fax No. : +91-712 2221430. Website : www.ltjss.net