

## Maharashtra State Board of Technical Education, Mumbai

### Tutorial PLAN (TP)

Academic Year: 2026-27 (ODD)

Date: 10/08/2026

**Institute Code and Name:** 0078- K. K. Wagh Polytechnic, Nashik

**Semester:** Fifth

**Programme and Code:** Chemical Engineering (CH)

**Course Index:** 503

**Course and Code:** Entrepreneurship Development and Startup (315002)

**Name of Faculty:** Dr. P. S. Bhandari

**Class:** TYCH

### INDUSTRY EXPECTED OUTCOME

Entrepreneurship and Startup are introduced in this curriculum to develop the entrepreneurial traits among the students before they enter into professional life. Exposing and interacting with entrepreneurship and startup eco-system, students will develop an entrepreneurial mind set. The innovative thinking with risk-taking ability along with other traits will be inculcated in the students through micro-projects and training. This exposure will be instrumental in orienting the students in transforming them to become job generators after completion of Diploma in Engineering.

### COURSE LEVEL LEARNING OUTCOMES (COS)

CO503.1 Identify one's entrepreneurial traits.

CO503.2 Use information collected from stakeholder for establishing/setting up/founding starts up.

CO503.3 Use support systems available for Starts up.

CO503.4: Prepare project plans to manage the enterprise effectively.

### TEACHING-LEARNING & ASSESSMENT SCHEME

| Course Code | Course Title                              | Abbreviation | Course Category | Learning Scheme |     |     |                         | Credits | Paper Duration | Assessment Scheme |        |       |       |                             |       |     |    |             |   | Total Marks |
|-------------|-------------------------------------------|--------------|-----------------|-----------------|-----|-----|-------------------------|---------|----------------|-------------------|--------|-------|-------|-----------------------------|-------|-----|----|-------------|---|-------------|
|             |                                           |              |                 | CL              | TL  | LL  | Actual Contact Hrs/Week |         |                | NLH               | Theory |       |       | Based on LL & TSL Practical |       |     |    | Based on SL |   |             |
|             |                                           |              |                 |                 |     |     |                         |         |                |                   | FA-TH  | SA-TH | Total | FA-PR                       | SA-PR | SLA |    |             |   |             |
|             |                                           |              |                 |                 |     |     |                         |         |                |                   |        |       |       |                             |       |     |    |             |   |             |
|             |                                           |              |                 |                 |     |     |                         |         |                |                   |        |       |       |                             |       |     |    |             |   |             |
| Max         | Max                                       | Max          | Min             | Max             | Min | Max | Min                     | Max     | Min            |                   |        |       |       |                             |       |     |    |             |   |             |
| 315002      | Entrepreneurship Development and Startups | ENDS         | AEC             | 01              | 02  | -   | -                       | 03      | 1              | -                 | -      | -     | -     | 50                          | 20    | 25@ | 10 | -           | - | 75          |

Abbreviations: CL- Classroom Learning, TL- Tutorial Learning, LL-Laboratory Learning, SLH-Self Learning Hours, NLH-Notional Learning Hours, FA - Formative Assessment, SA -Summative assessment, IKS - Indian Knowledge System, SLA - Self Learning Assessment Legends: @ Internal Assessment, # External Assessment, \*# On Line Examination, @\$ Internal Online Examination

● **LABORATORY LEARNING OUTCOME (LLO)**

| <b>LLO No.</b> | <b>Title of TLO</b>                                                                         |
|----------------|---------------------------------------------------------------------------------------------|
| LLO 1.1        | Collect information of successful entrepreneurial traits                                    |
| LLO 2.1        | Identify different traits as an entrepreneur from various field                             |
| LLO 2.2        | Suggest different traits from identified problem                                            |
| LLO 3.1        | Explore probable risks for identified enterprise                                            |
| LLO 4.1        | Identify new product for development                                                        |
| LLO 4.2        | Prepare a newly developed product                                                           |
| LLO 5.1        | Identify Process for development of product for new startup                                 |
| LLO 6.1        | Develop questioner for market survey                                                        |
| LLO 7.1        | Interpret the use of Technology Life Cycle                                                  |
| LLO 8.1        | Use information related to support of startups from Government and non-government agencies' |
| LLO 8.2        | Prepare report for setting up startup                                                       |
| LLO 12.1       | Prepare feasibility report of given business                                                |
| LLO 13.1       | Plan a USP of any enterprise.                                                               |
| LLO 14.1       | Prepare a project report using facilities of Atal Incubation center.                        |

### SUGGESTED CO'S - PO'S MATRIX FORM

| Course Outcomes (COs)                                                                              | Programme Outcomes (POs)                       |                      |                                      |                       |                                                       |                        |                        | Programme Specific Outcomes (PSOs) |      |
|----------------------------------------------------------------------------------------------------|------------------------------------------------|----------------------|--------------------------------------|-----------------------|-------------------------------------------------------|------------------------|------------------------|------------------------------------|------|
|                                                                                                    | PO1<br>Basic and Discipline Specific Knowledge | PO2 Problem Analysis | PO3 Design/ Development of Solutions | PO4 Engineering Tools | PO5 Engineering Practices for Society, Sustainability | PO6 Project Management | PO7 Life Long Learning | PSO1                               | PSO2 |
| CO1                                                                                                | 2                                              | 2                    | 2                                    | -                     | -                                                     | 3                      | 2                      | -                                  | -    |
| CO2                                                                                                | 2                                              | 2                    | 2                                    | 2                     | -                                                     | 3                      | 2                      | -                                  | -    |
| CO3                                                                                                | 2                                              | 2                    | 2                                    | 2                     | -                                                     | 3                      | 2                      | -                                  | -    |
| CO4                                                                                                | 2                                              | 2                    | 2                                    | 2                     | -                                                     | 3                      | 2                      | -                                  | -    |
| Legends :- High:03, Medium:02, Low:01, No Mapping: - *PSOs are to be formulated at institute level |                                                |                      |                                      |                       |                                                       |                        |                        |                                    |      |

## COs, Practical Laboratory Learning Outcome (LLOs) and Mapping

| PR. No | Relevant COs | Practical -Laboratory Learning Outcome (LLO) | Name of Experiments/Assignment/ Sheet/ Job/ Project Activity                               | Batch | Planned Dates |          | Actual Date of conduction | Remark/ Assessment Date with Staff sign |
|--------|--------------|----------------------------------------------|--------------------------------------------------------------------------------------------|-------|---------------|----------|---------------------------|-----------------------------------------|
|        |              |                                              |                                                                                            |       | From          | To       |                           |                                         |
| 1      | CO1          | LLO1.1                                       | Report of entrepreneurship as a career.                                                    | A     | 20/08/26      | 27/08/26 |                           |                                         |
|        |              |                                              |                                                                                            | B     | 19/08/26      | 02/09/26 |                           |                                         |
|        |              |                                              |                                                                                            | C     | 21/08/26      | 28/08/26 |                           |                                         |
| 2      | CO1          | LLO2.1<br>LLO2.2                             | Case study of traits of an entrepreneur.                                                   | A     | 20/08/26      | 27/08/26 |                           |                                         |
|        |              |                                              |                                                                                            | B     | 19/08/26      | 02/09/26 |                           |                                         |
|        |              |                                              |                                                                                            | C     | 21/08/26      | 28/08/26 |                           |                                         |
| 3      | CO1          | LLO 3.1<br>LLO 3.2                           | Case study on “Risk associated with enterprise.                                            | A     | 10/09/26      | 17/09/26 |                           |                                         |
|        |              |                                              |                                                                                            | B     | 09/09/26      | 16/09/26 |                           |                                         |
|        |              |                                              |                                                                                            | C     | 11/09/26      | 18/09/26 |                           |                                         |
| 4      | CO1          | LLO 11.1                                     | Report of Development of new product.                                                      | A     | 10/09/26      | 17/09/26 |                           |                                         |
|        |              |                                              |                                                                                            | B     | 09/09/26      | 16/09/26 |                           |                                         |
|        |              |                                              |                                                                                            | C     | 11/09/26      | 18/09/26 |                           |                                         |
| 5      | CO2          | LLO 5.1<br>LLO 5.2                           | Report on “Process selection” for new startup.                                             | A     | 17/09/26      | 24/09/26 |                           |                                         |
|        |              |                                              |                                                                                            | B     | 16/09/26      | 23/09/26 |                           |                                         |
|        |              |                                              |                                                                                            | C     | 18/09/26      | 25/09/26 |                           |                                         |
| 6      | CO2          | LLO6.1<br>LLO6.2                             | Market survey for setting up new start up.                                                 | A     | 17/09/26      | 24/09/26 |                           |                                         |
|        |              |                                              |                                                                                            | B     | 16/09/26      | 23/09/26 |                           |                                         |
|        |              |                                              |                                                                                            | C     | 18/09/26      | 25/09/26 |                           |                                         |
| 7      | CO2          | LLO7.1<br>LLO7.2                             | A case study on “Technology life cycle” of any successful entrepreneur.                    | A     | 27/09/26      | 01/10/26 |                           | Sunday                                  |
|        |              |                                              |                                                                                            | B     | 27/09/26      | 30/09/26 |                           |                                         |
|        |              |                                              |                                                                                            | C     | 27/09/26      | 01/10/26 |                           |                                         |
| 8      | CO3          | LLO8.1                                       | *Preparation of report on ‘Information for setting up new startup’ from MCED/MSME/KVIC etc | A     | 27/09/26      | 01/10/26 |                           | Sunday                                  |
|        |              |                                              |                                                                                            | B     | 27/09/26      | 30/09/26 |                           |                                         |
|        |              |                                              |                                                                                            | C     | 27/09/26      | 01/10/26 |                           |                                         |
| 9      | CO3          | LLO 10.1                                     | *Preparation of report on ‘feasibility of any Techno-                                      | A     | 01/10/26      | 08/10/26 |                           | Extra                                   |
|        |              |                                              |                                                                                            | B     | 30/09/26      | 07/10/26 |                           |                                         |

| PR. No | Relevant COs | Practical - Laboratory Learning Outcome (LLO) | Name of Experiments/ Assignment/ Sheet/ Job/ Project Activity                         | Batch | Planned Dates |          | Actual Date of conduction | Remark/ Assessment Date with Staff sign |
|--------|--------------|-----------------------------------------------|---------------------------------------------------------------------------------------|-------|---------------|----------|---------------------------|-----------------------------------------|
|        |              |                                               |                                                                                       |       |               |          |                           |                                         |
|        |              |                                               | commercial business”                                                                  | C     | 01/10/26      | 09/10/26 |                           | Extra                                   |
| 10     | CO4          | LLO 13.1<br>LLO13.2                           | *A case study based on ‘Unique selling Proposition (USP) of any successful enterprise | A     | 08/10/26      | 15/10/26 |                           |                                         |
|        |              |                                               |                                                                                       | B     | 07/10/26      | 14/10/26 |                           |                                         |
|        |              |                                               |                                                                                       | C     | 09/10/26      | 16/10/26 |                           |                                         |
| 11     | CO4          | LLO 14.1                                      | *Prepare project report for starting new startup using ‘Atal incubation center (AIC)  | A     | 08/10/26      | 15/10/26 |                           |                                         |
|        |              |                                               |                                                                                       | B     | 07/10/26      | 14/10/26 |                           |                                         |
|        |              |                                               |                                                                                       | C     | 09/10/26      | 16/10/26 |                           |                                         |
| 12     | CO5          | LLO15.1<br>LLO15.2                            | Visit report                                                                          | A     | 15/10/26      | 22/10/26 |                           |                                         |
|        |              |                                               |                                                                                       | B     | 14/10/26      | 21/10/26 |                           |                                         |
|        |              |                                               |                                                                                       | C     | 16/10/26      | 23/10/26 |                           |                                         |

### SUGGESTED LEARNING MATERIALS / BOOKS

| Sr. No. | Author                                                    | Title of Book                                                                   | Publication                                                                 |
|---------|-----------------------------------------------------------|---------------------------------------------------------------------------------|-----------------------------------------------------------------------------|
| 1       | Dr. Nishith Dubey, Aditya Vyas, Annu Soman , Anupam Singh | Un- boxing Entrepreneurship your self help guide to setup a successful business | Indira Publishing House ISBN 2023,978-93-93577-70-2                         |
| 2       | Gujral, Raman                                             | Reading Material of Entrepreneurship Awareness Camp                             | Entrepreneurship Development Institute of India (EDII), GOI, 2016 Ahmedabad |
| 3       | Chitale, A K                                              | Product Design and Manufacturing                                                | PHI Learning, New Delhi, 2014; ISBN: 9788120348738                          |
| 4       | Charantimath, Poornima                                    | Entrepreneurship Development Small Business Entrepreneurship                    | Pearson Education India, New Delhi; ISBN: 9788131762264                     |
| 5       | Khanka, S.S.                                              | Entrepreneurship and Small Business Management                                  | S.Chand and Sons, New Delhi, ISBN: 978-93-5161-094-6                        |

### LEARNING WEBSITES & PORTALS

| Sr. No | Link / Portal                                                                               | Description                                                                             |
|--------|---------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1      | <a href="http://www.mced.nic.in/allproduct.aspx">http://www.mced.nic.in/allproduct.aspx</a> | MCED Product and Plan Details                                                           |
| 2      | <a href="http://niesbud.nic.in/Publication.html">http://niesbud.nic.in/Publication.html</a> | The National Institute for Entrepreneurship and Small Business Development Publications |

| <b>Sr. No</b> | <b>Link / Portal</b>                                                                                                                                                                                                                                                                                                                          | <b>Description</b>                                                                   |
|---------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|
| 3             | <a href="http://niesbud.nic.in/docs/1standardized.pdf">http://niesbud.nic.in/docs/1standardized.pdf</a>                                                                                                                                                                                                                                       | Courses : The National Institute for Entrepreneurship and Small Business Development |
| 4             | <a href="https://www.nabard.org/Tenders.aspx?cid=501andid=24">https://www.nabard.org/Tenders.aspx?cid=501andid=24</a>                                                                                                                                                                                                                         | NABARD - Information Centre                                                          |
| 5             | <a href="http://www.startupindia.gov.in/pdffile.php?title=Startup%20India%20Action%20Planandtype=Actionandq=Action%20Plan.pdfandcontenttype=Actionandsubmenupoint=action">http://www.startupindia.gov.in/pdffile.php?title=Startup%20India%20Action%20Planandtype=Actionandq=Action%20Plan.pdfandcontenttype=Actionandsubmenupoint=action</a> | Start Up India                                                                       |
| 6             | <a href="http://www.ediindia.org/institute.html">http://www.ediindia.org/institute.html</a>                                                                                                                                                                                                                                                   | About - EDII                                                                         |
| 7             | <a href="http://www.nstedb.com/training/training.htm">http://www.nstedb.com/training/training.htm</a>                                                                                                                                                                                                                                         | NSTEDB - Training                                                                    |

**Dr. P. S. Bhandari**  
(Name & Signature of Staff)

**Dr. P. S. Bhandari**  
(Name & Signature of HOD)