





# ST. VINCENT PALLOTTI COLLEGE OF ENGINEERING & TECHNOLOGY, NAGPUR

(An autonomous institution affiliated to Rashtrasant Tukadoji Maharaj Nagpur University)

## B. Tech. Scheme of Examination & Syllabus 2026-27

### MECHANICAL ENGINEERING

#### GROUP II: SEMESTER I

Sr No.	Course Category	CourseCode	Course Title	Hours per Week			Credits	Maximum Marks				No. of Hrs for ESE
				L	T	P		Mid-Sem Examination	Continual Assessment	End Sem Examination	Total	
1.	BSC	26ME101T	Applied Physics	2	-	-	2	10	10	30	50	1.5
2.	BSC	26ME101P	Applied Physics Lab	-	-	2	1	-	25	25	50	-
3.	BSC	26ME102T	Linear Algebra & Calculus	3	-	-	3	20	20	60	100	3
4.	BSC	26ME102P	Linear Algebra & Calculus Lab	-	-	2	1	-	25	25	50	-
5.	ESC	26ME103T	Engineering Graphics	2	-	-	2	10	10	30	50	1.5
6.	ESC	26ME103P	Engineering Graphics Lab	-	-	2	1	-	25	25	50	-
7.	ESC	26ME104T	Engineering Mechanics	2	-	-	2	10	10	30	50	1.5
8.	ESC	26ME104P	Engineering Mechanics Lab	-	-	2	1	-	25	25	50	-
10.	PCC	26ME105P	Logic Building with C lab	-	-	4	2	-	25	25	50	-
11.	AEC	26ME106P	Business Communication Skills I Lab	-	-	2	1	-	25	25	50	-
12.	SEC	26ME207T	Design Thinking #	2	-	-	2	10	10	30	50	1.5
13.	CC	26ME107T	Co-curricular Courses - I	2	-	-	2	-	50	-	50	-
<b>Total</b>				<b>13</b>	<b>0</b>	<b>14</b>	<b>20</b>	<b>60</b>	<b>260</b>	<b>330</b>	<b>650</b>	

# Course to be taken online through NPTEL

		July 2026	4.0	Applicable for 2026-27
Chairman - BoS	Dean – Academics	Date of Release	Version	



# ST. VINCENT PALLOTTI COLLEGE OF ENGINEERING & TECHNOLOGY, NAGPUR

(An autonomous institution affiliated to Rashtrasant Tukadoji Maharaj Nagpur University)

## B. Tech. Scheme of Examination & Syllabus 2026-27

### MECHANICAL ENGINEERING

#### GROUP II : SEMESTER II

Sr No	Course Category	Course Code	Course Title	Hours per Week			Credits	Maximum Marks				No. of Hrs for ESE
				L	T	P		Mid-Sem Examination	Continual Assessment	End Sem Examination	Total	
1	BSC	26ME201T	Applied Chemistry	2	-	-	2	10	10	30	50	1.5
2	BSC	26ME201P	Applied Chemistry Lab	-	-	2	1	-	25	25	50	-
3	BSC	26ME202T	Statistics and Transforms	3	-	-	3	20	20	60	100	3
4	BSC	26ME202P	Statistics and Transforms Lab	-	-	2	1	-	25	25	50	-
5	ESC	26ME203T	Basics of Electrical and Electronics Engineering	2	-	-	2	10	10	30	50	1.5
6	ESC	26ME203P	Basics of Electrical and Electronics Engineering Lab	-	-	2	1	-	25	25	50	-
7	ESC	26ME204T	Materials Engineering	2	-	-	2	10	10	30	50	1.5
8	ESC	26ME204P	Materials Engineering Lab	-	-	2	1	-	25	25	50	-
10	PCC	26ME205P	Problem Solving with Python Lab	-	-	4	2	-	25	25	50	-
11	AEC	26ME206P	Business Communication Skills – II Lab	-	-	2	1	-	25	25	50	-
12	IKS	26ME107T	Indian Knowledge Systems #	2	-	-	2	10	10	30	50	1.5
13	CC	26ME208T	Co-curricular Courses – II	2	-	-	2	-	50	-	50	-
<b>Total</b>				<b>13</b>	<b>0</b>	<b>14</b>	<b>20</b>	<b>60</b>	<b>260</b>	<b>330</b>	<b>650</b>	

# Course to be taken online through NPTEL

		July 2026	4.0	Applicable for 2026-27
Chairman - BoS	Dean – Academics	Date of Release	Version	



# ST. VINCENT PALLOTTI COLLEGE OF ENGINEERING & TECHNOLOGY, NAGPUR

(An autonomous institution affiliated to Rashtrasant Tukadoji Maharaj Nagpur University)

## B. Tech. Scheme of Examination & Syllabus 2026-27

### MECHANICAL ENGINEERING

#### SEMESTER III

Sr No	Course Category	Course Code	Course Title	Hours per Week			Credits	Maximum Marks				No. of Hrs for ESE
				L	T	P		Mid-Sem Examination	Continual Assessment	End Sem Examination	Total	
1.	PCC	25ME301T	Fluid Mechanics and Hydraulic Machines	3	-	-	3	20	20	60	100	3
2.	PCC	25ME301P	Fluid Mechanics and Hydraulic Machines Lab	-	-	2	1	-	25	25	50	-
3.	PCC	25ME302T	Engineering Thermodynamics	3	-	-	3	20	20	60	100	3
4.	PCC	25ME303T	Manufacturing Processes	3	-	-	3	20	20	60	100	3
5.	PCC	25ME303P	Manufacturing Processes Lab	-	-	2	1	-	25	25	50	-
6.	PCC	25ME304P	Machine Drawing Lab	-	-	4	2	-	25	25	50	-
7.	VEC	25ES401T	Universal Human Values	2	-	-	2	10	10	30	50	1.5
8.	HSSM	25ES402T	Fundamentals of Economics and Management	2	-	-	2	10	10	30	50	1.5
9.	SEC	25ME341P	Career Development - I	-	-	2	1	-	50	-	50	-
10	MDM	25ME331M	Multidisciplinary Minor - I (Refer Basket)	2	-	-	2	10	10	30	50	1.5
<b>Total</b>				<b>15</b>	<b>-</b>	<b>10</b>	<b>20</b>	<b>90</b>	<b>215</b>	<b>345</b>	<b>650</b>	

Any one course from PCC/PEC will be executed in online mode through NPTEL. The NPTEL course will be notified one month prior to commencement of semester.

		July 2026	4.0	Applicable for 2027-28
Chairman - BoS	Dean – Academics	Date of Release	Version	



# ST. VINCENT PALLOTTI COLLEGE OF ENGINEERING & TECHNOLOGY, NAGPUR

(An autonomous institution affiliated to Rashtrasant Tukadoji Maharaj Nagpur University)

## B. Tech. Scheme of Examination & Syllabus 2026-27

### MECHANICAL ENGINEERING

#### SEMESTER IV

Sr No	Course Category	Course Code	Course Title	Hours per Week			Credits	Maximum Marks				No. of Hrs for ESE
				L	T	P		Mid-Sem Examination	Continual Assessment	End Sem Examination	Total	
1	PCC	26ME401T	Machining Process	3	-	-	3	20	20	60	100	3
2	PCC	26ME401P	Machining Process Lab	-	-	2	1	-	25	25	50	-
3	PCC	26ME402T	Strength of Materials	3	-	-	3	20	20	60	100	3
4	PCC	26ME402P	Strength of Materials Lab	-	-	2	1	-	25	25	50	-
5	PCC	26ME403P	Mechatronics Lab	-	-	2	1	-	25	25	50	-
6	PCC	26ME404P	Mechanical Measurements Lab	-	-	2	1	-	25	25	50	-
7	VEC	26ES301T	Constitution of India	2	-	-	2	10	10	30	50	1.5
8	HSSM	26ES302T	Fundamentals of Entrepreneurship	2	-	-	2	10	10	30	50	1.5
9	SEC	26ME441P	Career Development - II	-	-	2	1	-	50	-	50	-
10	CEP	26ME405P	Mini Project*	-	-	4	2	-	50	-	50	-
11	MDM	26ME431M	Multidisciplinary Minor – II (Refer Basket)	3	-	-	3	20	20	60	100	3
<b>Total</b>				<b>13</b>	<b>0</b>	<b>14</b>	<b>20</b>	<b>80</b>	<b>280</b>	<b>340</b>	<b>700</b>	

\* Field Project or Community engagement project in the major discipline

Any one course from PCC/PEC will be executed in online mode through NPTEL. The NPTEL course will be notified one month prior to commencement of semester.

		July 2026	4.0	Applicable for 2027-28
Chairman - BoS	Dean – Academics	Date of Release	Version	



# ST. VINCENT PALLOTTI COLLEGE OF ENGINEERING & TECHNOLOGY, NAGPUR

(An autonomous institution affiliated to Rashtrasant Tukadoji Maharaj Nagpur University)

## B. Tech. Scheme of Examination & Syllabus 2026-27

### MECHANICAL ENGINEERING

#### SEMESTER V

Sr No	Course Category	Course Code	Course Title	Hours per Week			Credits	Maximum Marks				No of Hours for ESE
				L	T	P		Mid-Sem Examination	Continual Assessment	End Sem Examination	Total	
1	PCC	26ME501T	Heat Transfer	3	-	-	3	20	20	60	100	3
2	PCC	26ME501P	Heat Transfer Lab	-	-	2	1	-	25	25	50	-
3	PCC	26ME502T	Design of Machine Elements	3	-	-	3	20	20	60	100	3
4	PEC	26ME503T	Professional Elective course - I	3	-	-	3	20	20	60	100	3
5	PEC	26ME503P	Professional Elective course - I Lab	-	-	2	1	-	25	25	50	-
6	VSC	26ME504P	Technical Skill Development - I	-	-	4	2	-	50	-	50	-
7	AEC	26ME541P	English for Engineers	-	-	4	2	-	50	-	50	-
8	MDM	26ME531M	Multidisciplinary Minor – III (Refer Basket)	3	-	-	3	20	20	60	100	3
9	OE	26ME561O	Open Elective – I (Refer Basket)	2	-	-	2	10	10	30	50	1.5
<b>Total</b>				<b>14</b>	<b>0</b>	<b>12</b>	<b>20</b>	<b>90</b>	<b>240</b>	<b>320</b>	<b>650</b>	

Any one course from PCC/PEC will be executed in online mode through NPTEL. The NPTEL course will be notified one month prior to commencement of semester.

		July 2026	4.0	Applicable for 2028-29
Chairman - BoS	Dean – Academics	Date of Release	Version	



# ST. VINCENT PALLOTTI COLLEGE OF ENGINEERING & TECHNOLOGY, NAGPUR

(An autonomous institution affiliated to Rashtrasant Tukadoji Maharaj Nagpur University)

## B. Tech. Scheme of Examination & Syllabus 2026-27

### MECHANICAL ENGINEERING

#### SEMESTER VI

Sr No	Course Category	Course Code	Course Title	Hours per Week			Credits	Maximum Marks				No of Hours for ESE
				L	T	P		Mid-Sem Examination	Continual Assessment	End Sem Examination	Total	
1.	PCC	26ME601T	Kinematics and Dynamic of Machines	3	-	-	3	20	20	60	100	3
2.	PCC	26ME601P	Kinematics and Dynamics of Machines Lab	-	-	2	1	-	25	25	50	-
3.	PEC	26ME602T	Professional Elective course - II	3	-	-	3	20	20	60	100	3
4.	PEC	26ME603T	Professional Elective course - III	3	-	-	3	20	20	60	100	3
5.	VSC	26ME604P	Technical Skill Development - II	-	-	4	2	-	50	-	50	-
6.	PROJ	26ME605P	Project - I	-	-	4	2	-	50	-	50	-
7.	MDM	26ME631M	Multidisciplinary Minor – IV (Refer Basket)	3	-	-	3	20	20	60	100	3
8.	OE	26ME661O	Open Elective – II (Refer Basket)	3	-	-	3	20	20	60	100	3
<b>Total</b>				<b>15</b>	<b>0</b>	<b>10</b>	<b>20</b>	<b>100</b>	<b>225</b>	<b>325</b>	<b>650</b>	

Any one course from PCC/PEC will be executed in online mode through NPTEL. The NPTEL course will be notified one month prior to commencement of semester.

		July 2026	4.0	Applicable for 2028-29
Chairman - BoS	Dean – Academics	Date of Release	Version	



# ST. VINCENT PALLOTTI COLLEGE OF ENGINEERING & TECHNOLOGY, NAGPUR

(An autonomous institution affiliated to Rashtrasant Tukadoji Maharaj Nagpur University)

## B. Tech. Scheme of Examination & Syllabus 2026-27

### MECHANICAL ENGINEERING

#### SEMESTER VII

Sr No	Course Category	Course Code	Course Title	Hours per Week			Credits	Maximum Marks				No of Hours for ESE
				L	T	P		Mid-Sem Examination	Continual Assessment	End Sem Examination	Total	
1.	PCC	26ME701T	Automation & Robotics	2	-	-	2	10	10	30	50	1.5
2.	PCC	26ME702T	Energy Conversion	3	-	-	3	20	20	60	100	3
3.	PCC	26ME702P	Energy Conversion Lab	-	-	2	1	-	25	25	50	-
4.	PEC	26ME703T	Professional Elective course - IV	3	-	-	3	20	20	60	100	3
5.	PEC	26ME703P	Professional Elective course – IV Lab	-	-	2	1	-	25	25	50	-
6.	PEC	26ME704T	Professional Elective course - V	2	-	-	2	10	10	30	50	1.5
7.	PROJ	26ME705P	Project - II	-	-	4	2	-	50	50	100	-
8.	MDM	26ME731M	Multidisciplinary Minor – V (Refer Basket)	3	-	-	3	20	20	60	100	3
9.	OE	26ME761O	Open Elective – III (Refer Basket)	3	-	-	3	20	20	60	100	3
Total				16	0	8	20	100	200	400	700	

Any one course from PCC/PEC will be executed in online mode through NPTEL. The NPTEL course will be notified one month prior to commencement of semester.

		July 2026	4.0	Applicable for 2029-30
Chairman - BoS	Dean – Academics	Date of Release	Version	



# ST. VINCENT PALLOTTI COLLEGE OF ENGINEERING & TECHNOLOGY, NAGPUR

(An autonomous institution affiliated to Rashtrasant Tukadoji Maharaj Nagpur University)

## B. Tech. Scheme of Examination & Syllabus 2026-27

### MECHANICAL ENGINEERING

#### SEMESTER VIII

#### Option A

Sr No	Course Category	Course Code	Course Title	Hours per Week			Credits	Maximum Marks				Min Passing Marks	No of Hours for ESE
				L	T	P		Mid-Sem Examination	Continual Assessment	End Sem Examination	Total		
1	RM	26ES801T	Research Methodology <sup>#</sup>	2	-	-	2	10	10	30	50	23	1.5
2	RM	26ES801P	Research Methodology Lab	-	-	4	2	-	25	25	50	25	-
3	PEC	26ME801T	Professional Elective Course - VI <sup>#</sup>	3	-	-	3	20	20	60	100	45	3
4	PEC	26ME801P	Professional Elective Course - VI Lab <sup>#</sup>	-	-	2	1	-	25	25	50	25	-
5	OJT	26ME803P(i)	Industry/Research Internship <sup>*</sup>	-	-	24	12	300		100	400	200	-
<b>Total</b>				<b>0</b>	<b>0</b>	<b>0</b>	<b>20</b>	<b>410</b>		<b>240</b>	<b>650</b>		

#### Option B

Sr No	Course Category	Course Code	Course Title	Hours per Week			Credits	Maximum Marks				Min Passing Marks	No of Hours for ESE
				L	T	P		Continual Assessment	Mid-Sem Examination	End Sem Examination	Total		
1	ELC	26ES801T	Research Methodology <sup>#</sup>	2	-	-	2	10	10	30	50	23	1.5
2	RM	26ES801P	Research Methodology Lab	-	-	4	2	25	-	25	50	25	-
3	PEC	26ME801T	Professional Elective Course - VI <sup>#</sup>	3	-	-	3	20	20	60	100	45	3
4	PEC	26ME801P	Professional Elective Course - VI Lab <sup>#</sup>	-	-	2	1	25	-	25	50	25	-
5	OJT	26ME804P(i)	Institutional Internship <sup>§</sup> & Project - III	-	-	24	12	300		100	400	200	-
<b>Total</b>				<b>0</b>	<b>0</b>	<b>0</b>	<b>20</b>	<b>410</b>		<b>240</b>	<b>650</b>		

**Option B is available to students only after recommendation of the concerned Head of the department. The project and internship should contribute towards career development plan of the students.**

**# Courses to be mapped with NPTEL/SWAYAM/MOOC offered course in that semester. Exam will be conducted by NPTEL/Institute**

**\* One semester internship in any industry is to be carried.**

**§ Two NPTEL courses of total six credits (as per choice of student) or Institutional Internship by IEDC, SVP CET.**

		July 2026	4.0	Applicable for 2029-30
Chairman - BoS	Dean – Academics	Date of Release	Version	



**ST. VINCENT PALLOTTI COLLEGE OF ENGINEERING & TECHNOLOGY, NAGPUR**

(An autonomous institution affiliated to Rashtrasant Tukadoji Maharaj Nagpur University)

**B. Tech. Scheme of Examination & Syllabus 2026-27**

**MECHANICAL ENGINEERING**

**Basket for Multi-Disciplinary Minor Courses (MDM)**

**A. Mechanical Engineering**

<b>Semester</b>	<b>Course Category</b>	<b>Course Code</b>	<b>Name of Course</b>	<b>Credits</b>
III	MDM-I	26ME331M	Orientation course on Entrepreneurship	2
IV	MDM-II	26ME431M	Project Management	3
V	MDM-III	26ME531M	Industrial Safety	3
VI	MDM-IV	26ME631M	Vehicle Engineering	3
VII	MDM-V	26ME731M	Project Planning and auxiliary systems in vehicle development	3



# ST. VINCENT PALLOTTI COLLEGE OF ENGINEERING & TECHNOLOGY, NAGPUR

(An autonomous institution affiliated to Rashtrasant Tukadoji Maharaj Nagpur University)

## B. Tech. Scheme of Examination & Syllabus 2026-27

### MECHANICAL ENGINEERING

#### Basket for Program Elective Courses (PEC)

#### B. Mechanical Engineering

Semester	Course Category	Course Code	Name of Course	Credits
V	PEC	26ME503T(i)	Industrial Robotics	3+1
V	PEC	26ME503T(ii)	Computer Aided Design	3+1
V	PEC	26ME503T(iii)	Renewable Energy Systems	3+1
V	PEC	26ME503T(iv)	Advanced I/C Engine	3+1
VI	PEC	26ME602T(i)	Logistics and Supply Chain Management	3
VI	PEC	26ME602T(ii)	Mechanical Vibrations	3
VI	PEC	26ME602T(iii)	Heating Ventilation and Air Conditioning	3
VI	PEC	26ME602T(iv)	Operation Research and Industrial Engineering	3
VI	PEC	26ME603T(i)	Advances in Project and Quality Management	3
VI	PEC	26ME603T(ii)	Automotive Systems Engineering	3
VI	PEC	26ME603T(iii)	Noise Vibration and Harshness	3
VI	PEC	26ME603T(iv)	Production and Operation Management	3
VII	PEC	26ME703T(i)	Refrigeration and Air Conditioning	3+1
VII	PEC	26ME703T(ii)	Finite Element Method	3+1
VII	PEC	26ME703T(iii)	Computer Integrated Manufacturing	3+1
VII	PEC	26ME703T(iv)	Additive Manufacturing	3+1
VII	PEC	26ME704T(i)	Machine Fault Diagnosis	2
VII	PEC	26ME704T(ii)	Tool Design	2
VII	PEC	26ME704T(iii)	Fuel Cell Technology	2
VIII	PEC	26ME801T	Profession Elective-VI	3+1



**ST. VINCENT PALLOTTI COLLEGE OF ENGINEERING & TECHNOLOGY, NAGPUR**

(An autonomous institution affiliated to Rashtrasant Tukadoji Maharaj Nagpur University)

**B. Tech. Scheme of Examination & Syllabus 2026-27**

**MECHANICAL ENGINEERING**

**Basket for Open Elective Courses (OE)**

**C. Mechanical Engineering**

<b>Semester</b>	<b>Course Category</b>	<b>Course Code</b>	<b>Name of Course</b>	<b>Credits</b>
V	OE-I	26ME561O	Entrepreneurship Development	2
VI	OE-II	26ME661O	Automobile Engineering	3
VII	OE-III	26ME761O	Renewable Energy Resources	3



# ST. VINCENT PALLOTTI COLLEGE OF ENGINEERING & TECHNOLOGY, NAGPUR

(An autonomous institution affiliated to Rashtrasant Tukadoji Maharaj Nagpur University)

## B. Tech. Scheme of Examination & Syllabus 2026-27

### MECHANICAL ENGINEERING

#### EXIT OPTIONS

##### Award of UG Certificate in Major with 40 credits and an additional 8 credits (After First Year)

EXIT COURSES			
S.N.	Course name	Mode of conduction	Credits
1.	Vocational Course on drafting software for 8 Weeks / Industry Internship for 8-week duration	Online/ Offline	8
2.			

##### Award of UG Diploma in Major with 80 credits and an additional 8 credits (After Second Year)

EXIT COURSES			
S.N.	Course name	Mode of conduction	Credits
1.	Vocational Course on Modeling software for 8 weeks/ Industry Internship for 8-week duration	Online/ Offline	8
2.			

##### Award of UG Degree in Major with 120 credits and an additional 8 credits (After Third Year)

EXIT COURSES			
S.N.	Course name	Mode of conduction	Credits
1.	Vocational Course on CAE software for 8 weeks/ Industry Internship for 8-week duration	Online/ Offline	8