



Ahmednagar Jilha Maratha Vidya Prasarak Samaj's
Shri Chhatrapati Shivaji Maharaj College of Engineering, Nepti, Ahmednagar

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Approved by AICTE New Delhi, Govt. of Maharashtra & Affiliated To Savitribai Phule Pune University.

2.5.2 Mechanism to deal with internal examination related grievances is transparent, time-bound and efficient

Index- 2.5.2

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**Students raise the grievances to
Concerned HOD**

**HOD forward all the grievances to Grievance
Redressal Committee**

**Discussion with members of Grievance Redressal
Committee and analyze the Grievance**

**Recommendation by the Grievance
Committee to Controller of Examinations**

Retotaling / Revaluation / Challenge done

Results published and accepted by student

**Grievances is resolved and action taken is
Recorded**

**Faculty of Science and Technology
Savitribai Phule Pune University
Maharashtra, India**



**Curriculum
for
Second Year of Computer Engineering
(2019 Course)
(With effect from 2020-21)**



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Savitribai Phule Pune University
Second Year of Computer Engineering (2019 Course) (With effect from Academic Year 2020-21)

Semester-III

Course Code	Course Name	Teaching Scheme (Hours/Week)					Examination Scheme and Marks				Credit												
		Theory	Practical	Tutorial	Mid-Sem	End-Sem	TW	PR	OR	Total	TH	PR	TUT	Total									
210241	Discrete Mathematics	03	-	01	30	70	-	-	-	100	03	-	01	04									
210242	Fundamentals of Data Structures	03	-	-	30	70	-	-	-	100	03	-	-	03									
210243	Object Oriented Programming	03	-	-	30	70	-	-	-	100	03	-	-	03									
210244	Computer Graphics	03	-	-	30	70	-	-	-	100	03	-	-	03									
210245	Digital Electronics and Logic Design	03	-	-	30	70	-	-	-	100	03	-	-	03									
210246	Humanity and Social Science	-	-	01	-	-	-	-	-	-	-	-	-	-									
210247	Data Structures Lab	-	04	-	-	-	25	50	-	75	-	02	-	02									
210248	OOP and Computer Graphics Lab	-	04	-	-	-	25	50	-	75	-	02	-	02									
210249	Digital Electronics Lab	-	02	-	-	-	25	-	-	25	-	01	-	01									
210250	Business Communication Skills Lab	-	02	-	-	-	25	-	-	25	-	01	-	01									
210251	Audit Course 3	-	-	-	-	-	-	-	-	-	-	-	-	-									
Total											15	12	02	150	350	100	100	-	700	15	06	01	22

Semester-IV

Course Code	Course Name	Teaching Scheme (Hours/Week)					Examination Scheme and Marks				Credit												
		Theory	Practical	Tutorial	Mid-Sem	End-Sem	TW	PR	OR	Total	TH	PR	TUT	Total									
210252	Mathematics III	03	-	01	30	70	-	-	-	100	03	-	01	04									
210253	Data Structures and Algorithms	03	-	-	30	70	-	-	-	100	03	-	-	03									
210254	Software Engineering	03	-	-	30	70	-	-	-	100	03	-	-	03									
210255	Microprocessor	03	-	-	30	70	-	-	-	100	03	-	-	03									
210256	Principles of Programming Languages	03	-	-	30	70	-	-	-	100	03	-	-	03									
210257	Data Structures and Algorithms Lab	-	04	-	-	-	25	50	-	75	-	02	-	02									
210258	Microprocessor Lab	-	04	-	-	-	25	50	-	75	-	02	-	02									
210259	Code of Conduct	-	-	01	-	-	-	-	-	-	-	-	-	-									
210260	Project Based Learning	-	04	-	-	-	50	-	-	50	-	02	-	02									
210261	Audit Course 4	-	-	-	-	-	-	-	-	-	-	-	-	-									
Total											15	12	02	150	350	100	100	-	700	15	06	01	22

SE (Computer Engineering) syllabus

(2019 Course)



[Signature]
HOD

Computer Department
 Shri Chhatrapati Shivaji Maharaj College
 of Engineering, Nepti, Ahmednagar

**Faculty of Science and Technology
Savitribai Phule Pune University
Maharashtra, India**



<http://unipune.ac.in>

**Curriculum
for
Third Year of Computer Engineering
(2019 Course)
(With effect from 2021-22)**



http://unipune.ac.in/university_files/syllabi.htm

Savitribai Phule Pune University															
Third Year of Computer Engineering (2019 Course)															
(With effect from Academic Year 2021-22)															
Semester V															
Course Code	Course Name	Teaching Scheme (Hours/week)			Examination Scheme and Marks						Credit Scheme				
		Lecture	Practical	Tutorial	Mid-Sem	End-Sem	Term work	Practical	Oral	Total	Lecture	Practical	Tutorial	Total	
310241	<u>Database Management Systems</u>	03	-	-	30	70	-	-	-	100	03	-	-	03	
310242	<u>Theory of Computation</u>	03	-	-	30	70	-	-	-	100	03	-	-	03	
310243	<u>Systems Programming and Operating System</u>	03	-	-	30	70	-	-	-	100	03	-	-	03	
310244	<u>Computer Networks and Security</u>	03	-	-	30	70	-	-	-	100	03	-	-	03	
310245	<u>Elective I</u>	03	-	-	30	70	-	-	-	100	03	-	-	03	
310246	<u>Database Management Systems Laboratory</u>	-	04	-	-	-	25	25	-	50	-	02	-	02	
310247	<u>Computer Networks and Security Laboratory</u>	-	02	-	-	-	25	-	25	50	-	01	-	01	
310248	<u>Laboratory Practice I</u>	-	04	-	-	-	25	25	-	50	-	02	-	02	
310249	<u>Seminar and Technical Communication</u>	-	01	-	-	-	50	-	-	50	-	01	-	01	
Total		15	11	-	150	350	125	50	25	700	15	06	-	21	
310250	<u>Audit Course 5</u>											Grade			
Total Credit											15	06	-	21	
Elective I						Audit Course 5									
<ul style="list-style-type: none"> • <u>Internet of Things and Embedded Systems</u> • <u>Human Computer Interface</u> • <u>Distributed Systems</u> • <u>Software Project Management</u> 						<ul style="list-style-type: none"> • Cyber Security • Professional Ethics and Etiquettes • MOOC- Learn New Skills • Engineering Economics • Foreign Language 									
Laboratory Practice I															
Assignments from Systems Programming and Operating System and Elective I															



Savitribal Phule Pune University														
Third Year of Computer Engineering (2019 Course)														
(With effect from Academic Year 2021-22)														
Semester VI														
Course Code	Course Name	Teaching Scheme (Hours/week)			Examination Scheme and Marks						Credit Scheme			
		Lecture	Practical	Tutorial	Mid-Sem	End-Sem	Term work	Practical	Oral	Total	Lecture	Practical	Tutorial	Total
310251	Data Science and Big Data Analytics	03	-	-	30	70	-	-	-	100	03	-	-	03
310252	Web Technology	03	-	-	30	70	-	-	-	100	03	-	-	03
310253	Artificial Intelligence	03	-	-	30	70	-	-	-	100	03	-	-	03
310254	Elective II	03	-	-	30	70	-	-	-	100	03	-	-	03
310255	Internship**	-	**	-	-	-	100**	-	-	100	-	04**	-	04
310256	Data Science and Big Data Analytics Laboratory	-	04	-	-	-	50	25	-	75	-	02	-	02
310257	Web Technology Laboratory	-	02	-	-	-	25	-	25	50	-	01	-	01
310258	Laboratory Practice II	-	04	-	-	-	50	25	-	75	-	02	-	02
Total											12	09	-	21
Total		12	10	-	120	280	225	50	25	700	12	05	-	21
310259	Audit Course 6												Grade	
Elective II <ul style="list-style-type: none"> Information Security Augmented and Virtual Reality Cloud Computing Software Modeling and Architectures 					Audit Course 6 <ul style="list-style-type: none"> Digital and Social Media Marketing Sustainable Energy Systems Leadership and Personality Development Foreign Language MOOC- Learn New Skills 									
Laboratory Practice II: Assignments from Artificial Intelligence and Elective II.														
** Internship: Internship guidelines are provided in course curriculum sheet.														



[Signature]
HOD

Computer Department
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**Faculty of Engineering
Savitribai Phule Pune University, Pune
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**Curriculum
for
Fourth Year of Computer Engineering
(2019 Course)
(With effect from 2022-23)**

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BE Computer Engineering 2019 Course tentative Curriculum structure:

Savitribai Phule Pune University Fourth Year of Computer Engineering (2019 Course) (With effect from Academic Year 2022-23)														
Semester VII														
Course Code	Course Name	Teaching Scheme (Hours/week)			Examination Scheme and Marks						Credit Scheme			
		Lecture	Practical	Tutorial	Mid-Sem	End-Sem	Term work	Practical	Oral/Pre	Total	Lecture	Practical	Tutorial	Total
410241	<u>Design and Analysis of Algorithms</u>	03	-	-	30	70	-	-	-	100	3	-	-	3
410242	<u>Machine Learning</u>	03	-	-	30	70	-	-	-	100	3	-	-	3
410243	<u>Blockchain Technology</u>	03	-	-	30	70	-	-	-	100	3	-	-	3
410244	<u>Elective III</u>	03	-	-	30	70	-	-	-	100	3	-	-	3
410245	<u>Elective IV</u>	03	-	-	30	70	-	-	-	100	3	-	-	3
410246	<u>Laboratory Practice III</u>	-	04	-	-	-	50	0	-	100	-	2	-	2
410247	<u>Laboratory Practice IV</u>	-	02	-	-	-	50	-	-	50	-	1	-	1
410248	<u>Project Stage I</u>	-	02	-	-	-	50	-	-	50	-	2	-	2
Total Credit											15	05	-	20
Total		15	08	-	150	350	150	50	-	700	15	05	-	20
410249	<u>Audit Course 7</u>										Grade			
Elective III						Elective IV								
410244(A) <u>Pervasive Computing</u>						410245(A) <u>Information Retrieval</u>								
410244(B) <u>Multimedia Techniques</u>						410245(B) <u>GPU Programming and Architecture</u>								
410244(C) <u>Cyber Security and Digital Forensics</u>						410245(C) <u>Mobile Computing</u>								
410244(D) <u>Object Oriented Modeling and Design</u>						410245(D) <u>Software Testing and Quality Assurance</u>								
410244(E) <u>Digital Signal Processing</u>						410245(E) <u>Compilers</u>								
Laboratory Practice III: Laboratory assignments Courses- 410241, 410242, 410243						Laboratory Practice IV: Laboratory assignments Courses- 410244, 410245								
Audit Course 7(AC7) Options: AC7- I MOOC- Learn New Skills AC7- II Entrepreneurship Development AC7- III Botnet of Things AC7- IV 3D Printing AC7- V Industrial Safety and Environment Consciousness														





Savitribal Phule Pune University														
Final Year of Computer Engineering (2019 Course)														
(With effect from Academic Year 2022-23)														
Semester VIII														
Course Code	Course Name	Teaching Scheme (Hours/week)			Examination Scheme and Marks						Credit Scheme			
		Lecture	Practical	Tutorial	Mid-Sem	End-Sem	Term work	Practical	Oral/Pre	Total	Lecture	Practical	Tutorial	Total
410250	High Performance Computing	03	-	-	30	70	-	-	-	100	03	-	-	03
410251	Deep Learning	03	-	-	30	70	-	-	-	100	03	-	-	03
410252	Elective V	03	-	-	30	70	-	-	-	100	03	-	-	03
410253	Elective VI	03	-	-	30	70	-	-	-	100	03	-	-	03
410254	Laboratory Practice V	-	02	-	-	-	50	50	-	100	-	01	-	01
410255	Laboratory Practice VI	-	02	-	-	-	50	-	-	50	-	01	-	01
410256	Project Stage II	-	06	-	-	-	100	-	50	150	-	06	-	06
Total Credit											12	08	-	20
Total		12	10	-	120	280	200	50	50	700	12	08	-	20
410257	Audit Course 8	-	-	-	-	-	-	-	-	-	-	-	-	Grade
Elective V							Elective VI							
410252(A) Natural Language Processing							410253(A) Pattern Recognition							
410252(B) Image Processing							410253(B) Soft Computing							
410252(C) Software Defined Networks							410253(C) Business Intelligence							
410252(D) Advanced Digital Signal Processing							410253(D) Quantum Computing							
410252(E) Open Elective I							410253(E) Open Elective II							
Lab Practice V:							Lab Practice VI:							
Laboratory assignments Courses- 410250, 410251							Laboratory assignments Courses- 410252, 410253							
Audit Course 8(AC8) Options: AC8- I Usability Engineering AC8- II Conversational Interfaces AC8- III Social Media and Analytics AC8- IV MOOC- Learn New Skills AC8- V Emotional Intelligence														




HOD

Computer Department
Shri Chhatrapati Shivaji Maharaj College
of Engineering, Neelam Nagar

Savitribai Phule Pune University, Pune
S.E. (Electronics / E&TC Engineering) 2019 Course
 (With effect from Academic Year 2020-21)

Semester-III

Course Code	Course Name	Teaching Scheme (Hours/Week)			Examination Scheme and Marks						Credit			
		Theory	Practical	Tutorial	In-Sem	End-Sem	TW	PR	OR	Total	TH	PR	TUT	Total
207005	Engineering Mathematics III	04	-	01	30	70	25	-	-	125	04	-	01	05
204181	Electronic Circuits	03	-	-	30	70	-	-	-	100	03	-	-	03
204182	Digital Circuits	03	-	-	30	70	-	-	-	100	03	-	-	03
204183	Electrical Circuits	03	-	-	30	70	-	-	-	100	03	-	-	03
204184	Data structures	03	-	-	30	70	-	-	-	100	03	-	-	03
204185	Electronic Circuit Lab	-	02	-	-	-	-	50	-	50	-	01	-	01
204186	Digital circuits Lab	-	02	-	-	-	-	50	-	50	-	01	-	01
204187	Electrical Circuit Lab	-	02	-	-	-	25	-	-	25	-	01	-	01
204188	Data Structures Lab	-	02	-	-	-	-	-	25	25	-	01	-	01
204189	Electronic Skill Development	-	02	-	-	-	25	-	-	25	-	01	-	01
204190	Mandatory Audit Course 3 &	-	-	-	-	-	-	-	-	-	-	-	-	-
Total		16	10	01	150	350	75	100	25	700	16	05	01	22



[Signature]
HEAD
 Department of E & TC Engineering
 Shri Chhatrapati Shivaji Maharaj College
 of Engineering, Nepti, Ahmednagar

Savitribai Phule Pune University, Pune
S.E. (Electronics / E&TC Engineering) 2019 Course
 (With effect from Academic Year 2020-21)

Semester-IV

Course Code	Course Name	Teaching Scheme (Hours/Week)			Examination Scheme and Marks						Credit			
		Theory	Practical	Tutorial	In-Sem	End-Sem	TW	PR	OR	Total	TH	PR	TUT	Total
204191	Signals & Systems	03	-	01	30	70	25	-	-	125	03	-	01	04
204192	Control Systems	03	-		30	70		-	-	100	03	-	-	03
204193	Principles of Communication Systems	03	-	-	30	70	-	-	-	100	03	-	-	03
204194	Object Oriented Programming	03	-	-	30	70	-	-	-	100	03	-	-	03
204195	Signals & Control System Lab		02				50			50		01		01
204196	Principle of Communication Systems Lab	-	02	-	-	-	-	50	-	50	-	01	-	01
204197	Object Oriented Programming Lab	-	02	-	-	-	-	-	50	50	-	01	-	01
204198	Data Analytics Lab		02				-		25	25		01		01
204199	Employability Skill Development	02	02	-	-	-	50	-	-	50	02	01	-	03
204200	Project Based Learning ¹	-	04				50		-	50		02		02
204201	Mandatory Audit Course 4 ^{&}	-	-	-	-	-	-	-	-	-	-	-	-	-
Total		14	14	01	120	280	175	50	75	700	14	07	01	22

Abbreviations:

In-Sem: In semester
PR : Practical

End-sem: End semester
OR : Oral

TH : Theory
TUT : Tutorial

TW : Term Work

Note: Interested students of S.E. (Electronics/E&TC) can opt any one of the audit course from the list of audit courses prescribed by BoS (Electronics & Telecommunications Engineering)



Anaals
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 of Engineering, Nepti, Ahmednagar

Savitribai Phule Pune University, Pune
T.E. (Electronics & Telecommunication Engineering) 2019 Course
 (With effect from Academic Year 2021-22)

Semester-V

Course Code	Course Name	Teaching Scheme (Hours/Week)			Examination Scheme and Marks						Credit			
		Theory	Practical	Tutorial	In-Sem	End-Sem	TW	PR	OR	Total	TH	PR	TUT	Total
304181	Digital Communication	03	-	-	30	70	-	-	-	100	03	-	-	03
304182	Electromagnetic Field Theory	03	-	01	30	70	25	-	-	125	03	-	01	04
304183	Database Management	03	-	-	30	70	-	-	-	100	03	-	-	03
304184	Microcontrollers	03	-	-	30	70	-	-	-	100	03	-	-	03
304185	Elective - I	03	-	-	30	70	-	-	-	100	03	-	-	03
304186	Digital Communication Lab	-	02	-	-	-	-	50	-	50	-	01	-	01
304187	Database Management Lab	-	02	-	-	-	-	-	25	25	-	01	-	01
304188	Microcontroller Lab	-	02	-	-	-	-	50	-	50	-	01	-	01
304189	Elective I Lab	-	02	-	-	-	-	25	-	25	-	01	-	01
304190	Skill Development	-	02	-	-	-	25	-	-	25	-	01	-	01
304191A	Mandatory Audit Course 5 &	-	-	-	-	-	-	-	-	-	-	-	-	-
Total		15	10	01	150	350	50	125	25	700	-	-	-	-
Total Credit											15	05	01	21

Elective - I

- 1) Digital Signal Processing
- 2) Electronic Measurements
- 3) Fundamentals of JAVA Programming
- 4) Computer Networks



Savitribai Phule Pune University, Pune
T.E. (Electronics & Telecommunication Engineering) 2019 Course
 (With effect from Academic Year 2021-22)

Semester-VI

Course Code	Course Name	Teaching Scheme (Hours/Week)			Examination Scheme and Marks						Credit			
		Theory	Practical	Tutorial	In-Sem	End-Sem	TW	PR	OR	Total	TH	PR	TUT	Total
304192	Cellular Networks	03	-	-	30	70	-	-	-	100	03	-	-	03
304193	Project Management	03	-	-	30	70	-	-	-	100	03	-	-	03
304194	Power Devices & Circuits	03	-	-	30	70	-	-	-	100	03	-	-	03
304195	Elective-II	03	-	-	30	70	-	-	-	100	03	-	-	03
304196	Cellular Networks Lab	-	02	-	-	-	-	-	50	50	-	01	-	01
304197	Power Devices & Circuits Lab	-	02	-	-	-	-	50	-	50	-	01	-	01
304198	Elective-II Lab	-	02	-	-	-	-	25	-	25	-	01	-	01
304199	Internship**	-	-	-	-	-	100	-	-	100	-	-	04	04
304200	Mini Project	-	04	-	-	-	25	-	50	75	-	02	-	02
304191 B	Mandatory Audit Course 6 &	-	-	-	-	-	-	-	-	-	-	-	-	-
Total		12	10	00	120	280	125	75	100	700				
Total Credit											12	05	04	21

Abbreviations:

In-Sem: In semester

End-Sem: End semester

TH: Theory

TW : Term Work

PR: Practical

OR: Oral

TUT: Tutorial

Note: Students of T.E. (Electronics & Telecommunications) have to opt any one of the audit course from the list of audit courses prescribed by BoS (Electronics & Telecommunications Engineering)

Elective -II

- 1) Digital Image Processing
- 2) Sensors in Automation
- 3) Advanced JAVA Programming
- 4) Embedded Processors
- 5) Network Security

L. K. Kulkarni
HEAD

Department of E & TC Engineering
 Shri Chhatrapati Shivaji Maharaj College
 of Engineering, Nepti, Ahmednagar



Savitribai Phule Pune University, Pune
B.E. (Electronics & Telecommunication) 2019 Course
 (With effect from Academic Year 2022-23)

Semester-VII

Course Code	Course Name	Teaching Scheme (Hours/Week)			Examination Scheme and Marks				Credit					
		Theory	Practical	Tutorial	In-Sem	End-Sem	TW	PR	OR	Total	TH	PR	TUT	Total
404181	Radiation & Microwave Theory	03	-	-	30	70	-	-	-	100	03	-	-	03
404182	VLSI Design and Technology	03	-	-	30	70	-	-	-	100	03	-	-	03
404183	Cloud Computing	03	-	-	30	70	-	-	-	100	03	-	-	03
404184	Elective - 3	03	-	-	30	70	-	-	-	100	03	-	-	03
404185	Elective - 4	03	-	-	30	70	-	-	-	100	03	-	-	03
404186	Lab Practice - 1 (RMT & Cloud Computing)	-	04	-	-	-	25	-	50	75	-	02	-	02
404187	Lab Practice - 2 (VLSI Design & Elective -3)	-	04	-	-	-	25	50	-	75	-	02	-	02
404188	Project Stage - I	-	02	-	-	-	50	-	-	50	-	01	-	01
404189	Mandatory Audit Course 7	-	-	-	-	-	-	-	-	-	-	-	-	-
Total		15	10	-	150	350	100	50	50	700	-	-	-	-
Total Credits											15	05	-	20

Elective - 3	Elective - 4
1. Speech Processing	1. Data Mining
2. PLC SCADA & Automation	2. Electronic Product Development
3. JAVA Script	3. Deep Learning
4. Embedded & RTOS	4. Low Power CMOS
5. Modernized IoT	5. Smart Antennas

Mandatory Audit Course - 7
1. Management Information System
2. Patent Search & Analysis
3. Knowledge Management
4. Energy Economics & Policy
5. Educational Leadership
6. Human Resource Development



Savitribai Phule Pune University, Pune
B.E. (Electronics & Telecommunication) 2019 Course
 (With effect from Academic Year 2022-23)

Semester-VIII

Course Code	Course Name	Teaching Scheme (Hours/Week)			Examination Scheme and Marks						Credit			
		Theory	Practical	Tutorial	In-Sem	End-Sem	TW	PR	OR	Total	TH	PR	TUT	Total
404190	Fiber Optic Communication	03	-	-	30	70	-	-	-	100	03	-	-	03
404191	Elective - 5	03	-	-	30	70	-	-	-	100	03	-	-	03
404192	Elective - 6	03	-	-	30	70	-	-	-	100	03	-	-	03
404193	Innovation & Entrepreneurship	-	-	02	-	-	50	-	-	50	-	-	02	02
404194	Digital Business Management	-	-	02	-	-	50	-	-	50	-	-	02	02
404195	Fiber Optic Lab	-	02	-	-	-	25	-	50	75	-	01	-	01
404196	Lab Practice - 3 (Elective - 5)	-	02	-	-	-	25	50	-	75	-	01	-	01
404197	Project Stage - II	-	10	-	-	-	100	-	50	150	-	05	-	05
Total		09	14	04	90	210	250	50	100	700	-	-	-	-
Total Credits											09	07	04	20

Elective - 5	Elective - 6
1. Biomedical Signal Processing	1. System on Chip
2. Industrial Drives & Automation	2. Nano Electronics
3. Android Development	3. Remote Sensing
4. Embedded System Design	4. Digital Marketing
5. Mobile Computing	5. Open Elective



Lunkalle
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 Department of E & TC Engineering
 Shri Chhatrapati Shivaji Maharaj College
 of Engineering, Nepti, Ahmednagar

TABLE -1 First Engineering _Structure for Semester-I

Course Code	Course Name	Teaching Scheme (Hours/Week)			Examination Scheme and Marks						Credits			
		Theory	Practical	Tutorial	ISE	ESE	TW	PR	OR	Total	TH	PR	TUT	Total
107001	Engineering Mathematics-I	03	--	01	30	70	25	--	--	125	03	--	01	04
107002/ 107009	Engineering Physics / Engineering Chemistry	04	02	--	30	70	--	25	--	125	04	01	--	05
102003	Systems in Mechanical Engineering	03	02	--	30	70	--	25	--	125	03	01	--	04
103004 / 104010	Basic Electrical Engineering / Basic Electronics Engineering	03	02	--	30	70	--	25	--	125	03	01	--	04
110005/ 101011	Programming and Problem Solving / Engineering Mechanics	03	02	--	30	70	--	25	--	125	03	01	--	04
111006	Workshop [@]	--	02	--	--	--	--	25	--	25	--	01	--	01
Total		16	10	01	150	350	25	125	--	650	16	05	01	22
101007	Audit Course 1 ^{&}	02	Environmental Studies-I											

Induction Program : 2 weeks at the beginning of semester-I and 1 week at the beginning of semester-II

TABLE -2 First Engineering _Structure for Semester-II

Course Code	Course Name	Teaching Scheme (Hours/Week)			Examination Scheme and Marks						Credits			
		Theory	Practical	Tutorial	ISE	ESE	TW	PR	OR	Total	TH	PR	TUT	Total
107008	Engineering Mathematics-II	04	--	01	30	70	25	--	--	125	04	--	01	05
107002/ 107009	Engineering Physics/ Engineering Chemistry	04	02	--	30	70	--	25	--	125	04	01	--	05
103004 / 104010	Basic Electrical Engineering / Basic Electronics Engineering	03	02	--	30	70	--	25	--	125	03	01	--	04
110005/ 101011	Programming and Problem Solving / Engineering Mechanics	03	02	--	30	70	--	25	--	125	03	01	--	04
102012	Engineering Graphics	01	02	01	--	50	25		--	75	01	01		02
110013	Project Based Learning [§]	--	04	--	--	--	25	50	--	75	--	02	--	02
Total		15	12	02	120	330	75	125	--	650	15	05	02	22
101014	Audit Course 2 ^{&}	02	Environmental Studies-II											
107015		--	Physical Education-Exercise and Field Activities											



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Savitribai Phule Pune University
Board of Studies - Automobile and Mechanical Engineering
Undergraduate Program - Automobile Engineering & Mechanical Engineering (2019 pattern)

Course Code	Course Name	Teaching Scheme (Hours/Week)			Examination Scheme and Marks						Credit			
		TH	PR	TUT	ISE	ESE	TW	PR	OR	TOTAL	TH	PR	TUT	TOTAL
Semester-III														
202041	Solid Mechanics	4	2	-	30	70	-	50	-	150	4	1	-	5
202042	Solid Modeling and Drafting	3	2	-	30	70	-	50	-	150	3	1	-	4
202043	Engineering Thermodynamics	3	2	-	30	70	-	-	25	125	3	1	-	4
202044	Engineering Materials and Metallurgy	3	2	-	30	70	25	-	-	125	3	1	-	4
203156	Electrical and Electronics Engineering	3	2	-	30	70	25	-	-	125	3	1	-	4
202045	Geometric Dimensioning and Tolerancing Lab	-	2	-	-	-	25	-	-	25	-	1	-	1
202046	Audit Course - III	-	-	-	-	-	-	-	-	-	-	-	-	-
Total		16	12	-	150	350	75	100	25	700	16	6	-	22
Semester-IV														
207002	Engineering Mathematics - III	3	-	1	30	70	25	-	-	125	3	-	1	4
202047	Kinematics of Machinery	3	2	-	30	70	-	-	25	125	3	1	-	4
202048	Applied Thermodynamics	3	2	-	30	70	-	-	25	125	3	1	-	4
202049	Fluid Mechanics	3	2	-	30	70	-	-	25	125	3	1	-	4
202050	Manufacturing Processes	3	-	-	30	70	-	-	-	100	3	-	-	3
202051	Machine Shop	-	2	-	-	-	50	-	-	50	-	1	-	1
202052	Project Based Learning - II	-	4	-	-	-	50	-	-	50	-	2	-	2
202053	Audit Course - IV	-	-	-	-	-	-	-	-	-	-	-	-	-
Total		15	12	1	150	350	125	-	75	700	15	6	1	22
<p>Abbreviations: TH: Theory, PR: Practical, TUT: Tutorial, ISE: In-Semester Exam, ESE: End-Semester Exam, TW: Term Work, OR: Oral</p> <p>Note: Interested students of SE (Automobile Engineering and Mechanical Engineering) can opt for any one of the audit course from the list of audit courses prescribed by BoS (Automobile and Mechanical Engineering)</p> <p>Instructions</p> <ul style="list-style-type: none"> • Practical/Tutorial must be conducted in three batches per division only. • Minimum number of required Experiments/Assignments in PR/ Tutorial shall be carried out as mentioned in the syllabi of respective subjects. • Assessment of tutorial work has to be carried out as a term-work examination. Term-work Examination at second year of engineering course shall be internal continuous assessment only. • Project based learning (PBL) requires continuous mentoring by faculty throughout the semester for successful completion of the tasks selected by the students per batch. While assigning the teaching workload of 2 Hrs/week/batch needs to be considered for the faculty involved. The Batch needs to be divided into sub-groups of 5 to 6 students. Assignments / activities / models/ projects etc. under project based learning is carried throughout semester and Credit for PBL has to be awarded on the basis of internal continuous assessment and evaluation at the end of semester. • Audit course, is mandatory but non-credit course. Examination has to be conducted at the end of Semesters for award of grade at institute level. Grade awarded for audit course shall not be calculated for grade point & CGPA. 														



Relitgo
NOD

Mechanical Department
Shri Chhatrapati Shivaji Maharaj College
of Engineering, Nepti, Ahmednagar

Savitribai Phule Pune University
Board of Studies - Automobile and Mechanical Engineering
Undergraduate Program - Mechanical Engineering (2019 pattern)

Course Code	Course Name	Teaching Scheme (Hrs/week)			Examination Scheme and Marks					Credit				
		TH	PR	TUT	ISE	ESE	TW	PR	OR	Total	TH	PR	TUT	Total
Semester-V														
302041	Numerical & Statistical Methods	3	-	1	30	70	25	-	-	125	3	-	1	4
302042	Heat & Mass Transfer	3	2	-	30	70	-	50	-	150	3	1	-	4
302043	Design of Machine Elements	3	2	-	30	70	-	-	25	125	3	1	-	4
302044	Mechatronics	3	2	-	30	70	-	-	25	125	3	1	-	4
302045	Elective I	3	-	-	30	70	-	-	-	100	3	-	-	3
302046	Digital Manufacturing Laboratory	-	2	-	-	-	50	-	-	50	-	1	-	1
302047	Skill Development	-	2	-	-	-	25	-	-	25	-	1	-	1
302048	Audit course - V ⁵	-	-	-	-	-	-	-	-	-	-	-	-	-
Total		15	10	1	150	350	100	50	50	700	15	5	1	21
Semester-VI														
302049	Artificial Intelligence & Machine Learning	3	2	-	30	70	-	-	25	125	3	1	-	4
302050	Computer Aided Engineering	3	2	-	30	70	-	50	-	150	3	1	-	4
302051	Design of Transmission Systems	3	2	-	30	70	-	-	25	125	3	1	-	4
302052	Elective II	3	-	-	30	70	-	-	-	100	3	-	-	3
302053	Measurement Laboratory	-	2	-	-	-	50	-	-	50	-	1	-	1
302054	Fluid Power & Control Laboratory	-	2	-	-	-	50	-	-	50	-	1	-	1
302055	Internship/Mini project *	-	4	-	-	-	100	-	-	100	-	4	-	4
302056	Audit course - VI ⁵	-	-	-	-	-	-	-	-	-	-	-	-	-
Total		12	14	-	120	280	200	50	50	700	12	9	-	21
Elective-I						Elective-II								
302045-A	Advanced Forming & Joining Processes					302052-A	Composite Materials							
302045-B	Machining Science & Technology					302052-B	Surface Engineering							

Abbreviations: TH: Theory, PR: Practical, TUT: Tutorial, ISE: In-Semester Exam, ESE: End-Semester Exam, TW: Term Work, OR: Oral

Note: Interested students of TE (Automobile Engineering and Mechanical Engineering) can opt for any one of the audit course from the list of audit courses prescribed by BOS (Automobile and Mechanical Engineering)

Instructions:

- Practical/Tutorial must be conducted in FOUR batches per division only.
- Minimum number of Experiments/Assignments in PR/Tutorial shall be carried out as mentioned in the syllabi of respective courses.
- Assessment of tutorial work has to be carried out similar to term-work. The Grade cum marks for Tutorial and Term-work shall be awarded on the basis of **continuous evaluation**.
- ⁵Audit course is mandatory but non-credit course. Examination has to be conducted at the end of Semesters for award of grade at institute level. Grade awarded for audit course shall not be calculated for grade point & CGPA.



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HOD
Mechanical Department
Shri Chhatrapati Shivaji Maharaj College
of Engineering, Napti, Ahmednagar

Savitribai Phule Pune University
Board of Studies - Mechanical and Automobile Engineering
 Undergraduate Program – Final Year Mechanical Engineering (2019 pattern)

Course Code	Course Name	Teaching Scheme (Hrs./week)			Examination Scheme and Marks						Credit			
		TH	PR	TUT	ISE	ESE	TW	PR	OR	TOTAL	TH	PR	TUT	TOTAL
Semester-VII														
402041	Heating-Ventilation Air-Conditioning and Refrigeration	3	2	-	30	70	-	-	25	125	3	1	-	4
402042	Dynamics of Machinery	3	2	-	30	70	-	-	25	125	3	1	-	4
402043	Turbomachinery*	2	2	-	-	50	25	-	25	100	2	1	-	3
402044	Elective - III	3	-	-	30	70	-	-	-	100	3	-	-	3
402045	Elective - IV	3	-	-	30	70	-	-	-	100	3	-	-	3
402046	Data Analytics Laboratory	-	2	-	-	-	50	-	-	50	-	1	-	1
402047	Project (Stage - I)	-	4	-	-	-	50	-	50	100	-	2	-	2
402054	Audit Course VII ¹	-	-	-	-	-	-	-	-	-	-	-	-	NC
Total		14	12	-	120	330	125	-	125	700	14	6	-	20
Semester-VIII														
402048	Computer Integrated Manufacturing	3	2	-	30	70	25	-	25	150	3	1	-	4
402049	Energy Engineering	3	2	-	30	70	25	-	25	150	3	1	-	4
402050	Elective - V	3	-	-	30	70	-	-	-	100	3	-	-	3
402051	Elective - VI	3	-	-	30	70	-	-	-	100	3	-	-	3
402052	Mechanical Systems Analysis Laboratory	-	2	-	-	-	25	-	25	50	-	1	-	1
402053	Project (Stage - II)	-	10	-	-	-	100	-	50	150	-	5	-	5
402055	Audit Course VIII ¹	-	-	-	-	-	-	-	-	-	-	-	-	NC
Total		12	16	-	120	380	175	-	125	780	12	8	-	20
Elective-III					Elective-V									
402044A	Automobile Design				402050A	Quality and Reliability Engineering								
402044B	Design of Heat Transfer Equipments				402050B	Energy Audit and Management								
402044C	Modern Machining Processes				402050C	Manufacturing Systems and Simulation								
402044D	Industrial Engineering				402050D	Engineering Economics and Financial Management								
402044E	Internet of Things				402050E	Organizational Informatics								
402044F	Computational Fluid Dynamics				402050F	Computational Multi Body Dynamics								
Elective-IV					Elective-VI									
402045A	Product Design and Development				402051A	Process Equipment Design								
402045B	Experimental Methods in Thermal Engineering				402051B	Renewable Energy Technologies								
402045C	Additive Manufacturing				402051C	Automation and Robotics								
402045D	Operations Research				402051D	Industrial Psychology and Organizational Behavior								
402045E	Augmented Reality and Virtual Reality				402051E	Electrical and Hybrid Vehicle								

Audit Courses			
402054A	Yoga Practices	402054B	Stress Management
402055A	Managing Innovation	402055B	Operations Management

Abbreviations: TH: Theory, PR: Practical, TUT: Tutorial, ISE: In-Semester Exam, ESE: End-Semester Exam, TW: Term Work, OR: Oral

- Student can select any elective subjects from the list given as per his/her choice. However, it is advised to select the subjects from within a group identified for specialization.



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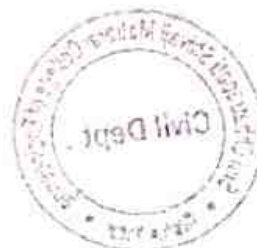
Mechanical Department
 Shri Chhatrapati Shivaji Maharaj College
 of Engineering, Haysi, Ahmednagar

Savitribai Phule Pune University



**Syllabus for SE (Civil Engineering) 2019 course
(To be implemented from June 2020)**

**Board of Studies in Civil Engineering
Faculty of Science and Technology
SPPU June 2020**



SE Civil

Savitribai Phule Pune University, Pune SE (Civil Engineering) 2019 Course (With effect from Academic Year 2019-20) Semester-III														
Course Code	Course Name	Teaching Scheme (Hours/Week)			Examination Scheme and Marks						Credit			
		Theory	Practical	Tutorial	In-Sem	End-Sem	TW	PR	OR	Total	TH	PR	TUT	Total
201001	Building Technology and Architectural Planning	03	-	-	30	70	-	-	-	100	03	-	-	03
201002	Mechanics of structure	03	-	-	30	70	-	-	-	100	03	-	-	03
201003	Fluid Mechanics	03	-	-	30	70	-	-	-	100	03	-	-	03
207001	Engineering Mathematics III	03	--	--	30	70	--	--	--	100	03	-	-	03
207003	Engineering Geology	03	-	-	30	70	-	-	-	100	03	-	-	03
201004	Building Technology and Architectural Planning Lab	-	04	-	-	-	50	-	-	50	-	02	-	02
201005	Mechanics of structure Lab	-	04	-	-	-	-	-	50	50	-	02	-	02
201006	Fluid Mechanics Lab	-	02	-	-	-	-	-	50	50	-	01	-	01
207002	Engineering Mathematics III Tutorial	--	--	01	--	--	25	--	--	25	--	-	01	01
207004	Engineering Geology Lab	-	02	-	-	-	25	-	-	25	-	01	-	01
201007	<u>Audit Course I</u> Awareness to civil Engineering Practices / Road Safety Management / Foreign Language	--	01	-	-	Grade	-	-	-	Grade	--	--	-	--
Total		15	13	01	150	350	100	--	100	700	15	06	01	22

Abbreviations:
 H : Theory TW: Term Work PR : Practical OR: Oral TUT : Tutorial
Note: Interested students of S.E. (Civil) can opt any one of the audit course from the list of audit courses prescribed by BoS (Civil Engineering)
Note: The Underlined portion of the syllabus will be covered by video lectures/ on-line lectures/ flip classroom, self study, NPTEL course lecture and/or using relevant ICT technique



Savitribai Phule Pune University, Pune
SE(Civil Engineering) 2019 Course
 (With effect from Academic Year 2020-21)

Semester-IV

Course Code	Course Name	Teaching Scheme (Hours/Week)			Examination Scheme and Marks					Credit				
		Theory	Practical	Tutorial	IN-Sem	End-Sem	TW	PR	OR	Total	TH	PR	TUT	Total
201008	Geotechnical Engineering	03	-	-	30	70	--	-	-	100	03	--	--	03
201009	Survey	03	-	-	30	70	-	-	-	100	03	-	-	03
201010	Concrete Technology	03	-	-	30	70	-	-	-	100	03	-	-	03
201011	Structural Analysis	03	-	--	30	70	-	-	-	100	03	-	--	03
201012	Project management	03	--	-	30	70	--	--	--	100	03	-	-	03
201013	Geotechnical Engineering Lab	-	02	-	-	-	-	-	50	50	-	01	-	01
201014	Survey Lab	-	04	-	-	-	-	50	-	50	-	02	-	02
201015	Concrete Technology Lab	-	02	-	-	-	25	-	-	25	-	01	-	01
201016	Structural Analysis Tutorial	--	-	01	--	--	25	-	-	25	--	-	01	01
201017	Project Based Learning	-	04	-	-	-	50	-	-	50	-	02	-	02
Total		15	12	01	150	350	100	50	50	700	15	06	01	22

Abbreviations:

TH : Theory TW: Term Work PR : Practical OR: Oral TUT : Tutorial

Note: The Underlined portion of the syllabus will be covered by video lectures/ on-line lectures/ flip classroom, self study, NPTEL course lectures and/or using relevant ICT technique




HOD
Civil Department
Shiv Chhatrapati Shivaji Maharaj College
of Engineering, Warananagar

Savitribai Phule Pune University, Pune



Syllabus for TE Civil Engineering (2019 Pattern)

Implemented from Academic year 2021-22

Board of Studies in Civil Engineering

Faculty of Science and Technology

Savitribal Phule Pune University, Pune
TE (Civil Engineering) 2019 Pattern
(With effect from Academic Year 2021-22)

SEMESTER: V

Course Code	Course Name	Teaching Scheme (Hours/Week)			Examination Scheme and Marks						Credit					
		Theory	Practical	Tutorial	IN-Sem	End-Sem	TW	PR	OR	Total	TH	TW	PR	OR	TUT	Total
301001	Hydrology and Water Resources Engineering	03	--	--	30	70	--	--	--	100	03	--	--	--	--	03
301002	Water Supply Engineering	03	--	--	30	70	--	--	--	100	03	--	--	--	--	03
301003	Design of Steel Structures	03	--	--	30	70	--	--	--	100	03	--	--	--	--	03
301004	Engineering Economics and Financial Management	03	--	--	30	70	--	--	--	100	03	--	--	--	--	03
301005	Elective I	03	--	--	30	70	--	--	--	100	03	--	--	--	--	03
301006	Seminar	--	--	01	--	--	50	--	--	50	--	--	--	--	01	01
301007	Hydrology and Water Resources Engineering Lab	--	02	--	--	--	25	--	--	25	--	01	--	--	--	01
301008	Water Supply Engineering Lab	--	02	--	--	--	--	50	--	50	--	--	01	--	--	01
301009	Design of Steel Structures Lab	--	04	--	--	--	--	--	50	50	--	--	--	02	--	02
301010	Elective I Lab	--	02	--	--	--	25	--	--	25	--	01	--	--	--	01
301011	Audit Course I: Professional Ethics and Etiquettes/ Sustainable Energy Systems	--	--	01	--	GR	--	--	--	GR	--	--	--	--	--	--
Total		15	10	02	150	350	100	50	50	700	15	02	01	02	01	21

Abbreviations: TH : Theory, TW: Term Work, PR : Practical, OR: Oral, TUT : Tutorial, GR: Grade

Elective I: 301005

S N	Course Code	Course Name
01	301005 a	Advanced Fluid Mechanics and Hydraulic Machines
02	301005 b	Research Methodology and IPR
03	301005 c	Construction Management
04	301005 d	Advanced Concrete Technology
05	301005 e	Matrix Methods of Structural Analysis
06	301005 f	Advanced Mechanics of Structures



SEMESTER-VI																
Course Code	Course Name	Teaching Scheme (Hours/Week)			Examination Scheme and Marks						Credit					
		Theory	Practical	Tutorial	IN-Sem	End-Sem	TW	PR	OR	Total	TH	TW	PR	OR	TUT	Total
301012	Waste Water Engineering	03	--	--	30	70	--	--	--	100	03	--	--	--	03	
301013	Design of RC Structures	03	--	--	30	70	--	--	--	100	03	--	--	--	03	
301014	Remote Sensing and GIS	03	--	--	30	70	--	--	--	100	03	--	--	--	03	
301015	Elective II	03	--	--	30	70	--	--	--	100	03	--	--	--	03	
301016	Internship	--	--	--	--	--	100	--	--	100	--	04	--	--	04	
301017	Waste Water Engineering Lab	--	02	--	--	--	--	50	50	--	--	--	01	--	01	
301018	Design of RC Structures Lab	--	04	--	--	--	--	50	50	--	--	--	02	--	02	
301019	Remote Sensing and GIS Lab	--	02	--	--	--	50	--	50	--	01	--	--	--	01	
301020	Elective II Lab	--	02	--	--	--	50	--	50	--	01	--	--	--	01	
301021	Audit Course II: Leadership and Personality Development/ Industrial Safety	--	--	01	--	GR	--	--	--	GR	--	--	--	--	--	
Total		12	10	01	120	280	200	--	100	700	12	06	--	03	--	21

Abbreviations: TH : Theory, TW: Term Work, PR : Practical, OR: Oral and TUT : Tutorial, GR: Grade

Elective II: 301015

S N	Course Code	Course Name
01	301015 a	Advanced Engineering Geology with Rock Mechanics
02	301015 b	Soft Computing Techniques
03	301015 c	Advanced Surveying
04	301015 d	Advanced Geotechnical Engineering
05	301015 e	Architecture and Town Planning
06	301015 f	Solid Waste Management



P. K. Kulkarni
HOD

Civil Department
Shri Chhatrapati Shivaji Maharaj College
of Engineering, Nepti, Ahmednagar

Savitribai Phule Pune University, Pune



Syllabus for BE Civil Engineering (2019 Pattern)

Implemented from Academic year 2022-23

Board of Studies in Civil Engineering

Faculty of Science and Technology

Savitribal Phule Pune University, Pune
BE (Civil Engineering) 2019 Pattern
(With effect from Academic Year 2022-23)

SEMESTER: VII

Course Code	Course Name	Teaching Scheme (Hours/Week)			Examination Scheme and Marks					Credit						
		Theory	Practical	Tutorial	IN-Sem	End-Sem	TW	PR	OR	Total	TH	TW	PR	OR	TUT	Total
401001	Foundation Engineering	03	--	--	30	70	--	--	--	100	03	--	--	--	--	03
401002	Transportation Engineering	03	--	--	30	70	--	--	--	100	03	--	--	--	--	03
401003	Elective III	03	--	--	30	70	--	--	--	100	03	--	--	--	--	03
401004	Elective IV	03	--	--	30	70	--	--	--	100	03	--	--	--	--	03
401005	Project Stage I	--	04	--	--	--	50	--	50	100	--	01	--	02	--	03
401006	Transportation Engineering Lab	--	02	--	--	--	--	--	50	50	--	--	--	01	--	01
401007	Elective III Lab	--	02	--	--	--	--	--	50	50	--	--	--	01	--	01
401008	Elective IV Lab	--	02	--	--	--	50	--	--	50	--	01	--	--	--	01
401009	Computer Programming in Civil Engineering	01	02	--	--	--	50	--	--	50	--	02	--	--	--	02
401010	Audit Course I Stress Management by Yoga / Communication Etiquette in Workplaces	--	--	01	--	GR	--	--	--	GR	--	--	--	--	--	--
Total		13	12	01	120	280	150	--	150	700	12	04	--	04	--	20

Abbreviations: TH : Theory, TW: Term Work, PR : Practical, OR: Oral, TUT : Tutorial, GR: Grade

Elective III and IV

S N	Course Code	Elective III: Course Name	Course Code	Elective IV: Course Name
01	401003 a	Coastal Engineering	401004 a	Air Pollution and Control
02	401003 b	Advanced Design of Concrete Structures	401004 b	Advanced Design of Steel Structures
03	401003 c	Integrated Water Resources Planning & Management	401004 c	Statistical Analysis and Computational Method
04	401003 d	Finite Element Method	401004 d	Airport and Bridge Engineering
05	401003 e	Data Analytics	401004 e	Design of Prestressed Concrete Structures
06	401003 f	Operation Research	401004 f	Formwork and Plumbing Engineering



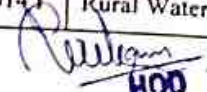
SEMESTER-VIII																
Course Code	Course Name	Teaching Scheme (Hours/Week)			Examination Scheme and Marks						Credit					
		Theory	Practical	Tutorial	IN-Sem	End-Sem	TW	PR	OR	Total	TH	TW	PR	OR	TUT	Total
401011	Dams and Hydraulics Structures	03	--	--	30	70	--	--	--	100	03	--	--	--	--	03
401012	Quantity Surveying, Contracts and Tenders	03	--	--	30	70	--	--	--	100	03	--	--	--	--	03
401013	Elective V	03	--	--	30	70	--	--	--	100	03	--	--	--	--	03
401014	Elective VI	03	--	--	30	70	--	--	--	100	03	--	--	--	--	03
401015	Project Stage II	--	10	--	--	--	100	--	50	150	--	03	--	02	--	05
401016	Dams and Hydraulics Structures Lab	--	02	--	--	--	--	--	50	50	--	--	--	01	--	01
401017	Quantity Surveying, Contracts and Tenders Lab	--	02	--	--	--	--	--	50	50	--	--	--	01	--	01
401018	Elective V Lab	--	02	--	--	--	50	--	--	50	--	01	--	--	--	01
401019	Audit Course II Social Responsibility / Human Rights	--	--	01	--	GR	--	--	--	GR	--	--	--	--	--	--
Total		12	16	01	120	280	150	--	150	700	12	04	--	04	--	20

Abbreviations: TH : Theory, TW: Term Work, PR : Practical, OR: Oral and TUT : Tutorial, GR: Grade

Elective V and VI

S N	Course Code	Elective V: Course Name	Course Code	Elective VI: Course Name
01	401013 a	Earthquake Engineering	401014 a	TQM and MIS
02	401013 b	Structural Design of Bridges	401014 b	Advanced Transportation Engineering
03	401013 c	Irrigation and Drainage	401014 c	Geo Synthetic Engineering
04	401013 d	Design of Precast and Composite Structures	401014 d	Structural Design of Foundations
05	401013 e	Hydropower Engineering	401014 e	Green Structures and Smart Cities
06	401013 f	Structural Audit and Retrofitting of Structures	401014 f	Rural Water Supply and Sanitation




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Civil Department
Shri Chhatrapati Shriraj Maharaj College
of Engineering, Nepti, Ahmednagar



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Date:09/01/2023

Notice about Submission of Grievance Application

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HOD

Mechanical engineering

HOD

Mechanical Department

Shri Chhatrapati Shivaji Maharaj College
of Engineering, Nepti, Ahmednagar



AhmednagarJilha Maratha VidyaPrasarakSamaj's

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APPLICATION FORM FOR GRIEVANCE

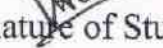
Roll No : 29
Name of the Student : Katkar Vivek Babasaheb
Class : TE MECH
Semester : 6
Department : Mechanical Engg.

Detail reason for Grievance:

In unit test Q.1 C which is 8 Marks as per model answer 4 Marks for Advantages & 4 Marks limitation but only 2 marks given to limitation.

Subject Name of Test Paper : Composite Material

Name of Subject Teacher : Prof. M.D. Mandhac


(Signature of Student)

REMARK OF THE HEAD


Department : Mechanical Engg.

Name of HOD : Prof. A.B. kale

Dated : 12/01/2023

*Forwarded
To Subject Teacher
For necessary Action*




(Signature of HOD)

HOD
Mechanical Department
Shri Chhatrapati Shivaji Maharaj College
of Engineering, Nepti, Ahmednagar

Name of Student	Kattkar Vivek Babasaheb				Inst. Code-5382						
Program	C.M	Course	M.E	Course Code							
Class	T.E	Semester	6	Date of Exam							
Sign. of Supervisor					Sign. of Assessor						
Que. No.	1	2	3	4	5	6	7	8	9	10	Total Marks 20
Marks	08		12	09							

08 14 09

Q2

→ Q metal matrix composite

The metal matrix are the group of compound. alloy of metallic compounds metal, alloys, and other compounds are the metal composite material. they are the group of metal Reinforcing phase, such as particulates whisker or the continue fibre. in metal matrix composite is a composite material with fibres or the particles dispersed matrix, copper, aluminium or steel. this know the metal matrix composite.

* commonly used matrix and reinforcement material

- 1) currently, common matrix metal and Aluminium, copper, and other metal material nicle and titanium
- 2) polymer matrix are the most widely used for composite in commercial and High Reinforcement application
- 3) ceramic and metal material are the typically used for the very high temperature environment as engine

03

03

Inst. Code-23		Name of Student	
Course Code	Course	Program	
Date of Exam	Semester	Class	
Sign of Assessor		Sign of Supervisor	
		Ques. No.	
		1	
		2	
		3	
		4	
		5	
		6	
		7	
		8	
		9	
		10	
		Total Marks	

(b)

→ The important characteristic of the metal matrix composite material.

- 1) High strength - density ratio.
- 2) High stiffness to density ratio.
- 3) Better fatigue resistance.
- 4) Better elevated temperature properties.
- 5) Higher strength.
- 6) Low coefficient of thermal expansion.
- 7) Better wear resistance.

63

63

→ (c) Advantages and limitation of the metal matrix composites.

- 1) Higher temperature capability.
- 2) Fire Resistance.
- 3) Higher transverse stiffness and strength.
- 4) No moisture absorption.
- 5) Higher electrical and thermal conductivity.
- 6) Better radiation resistance.
- 7) No outgassing.
- 8) Fabricability - Reinforcement with mm particular - Reinforcement conventional metal working equipment.

* Limitation of metal matrix composites.

- 1) Higher cost of some material system.
- 2) Relatively immature.
- 3) complex fabrication method.
- 4) The fiber-reinforced.
- 5) Limited service experience.

02

02 // = 04

Q:3

→ (a) The mechanical behaviours mean show that composite material behaves when it is the under the mechanical loading action. As the composite material form according to the require mechanism, mechanical loading and thermal condition, they have the good strength durability. The composite material have and good thermal resistance properties so that higher thermal condition. The composite material represent cannot to be obtained with material cannot be obtain material. It can according requirement without dissolving the mixing of the different properties. The composite would not be disint properties. The example of composite material
ex - fiberglass, concrete, etc.

03

03

→ (B) The design composite material, it is the often necessary determine the engineering properties of various types and proportion fiber and matrix constituent.

- 1) The determine the volume occupied by the fiber constituent. click the utilities.
- 2) In 7 carbon fibre type the drop down the menu.

- 3) select matrix type top-down.
- 4) click the new lamina form the micromechanics.
- 5) In the appers, select the 7 carbon fiber and 5507 matrix material on the calculator. the composite material behavior where are the material presumed the Homogenous, and the effect of the constituent material detected only averaged macroscopic properties of the composite material.

Q.3

→ (C) The density of the composite calculated by the adding the mass and each component i.e. the mass of the fibre, m_f and matrix m_m

$$m = m_f + m_m$$

$$m = \rho \cdot V$$

$$\rho \cdot V = \rho_f \cdot V_f + \rho_m \cdot V_m$$

$$\rho \cdot V = \rho_f \cdot f \cdot V + \rho_m (1-f) \cdot V$$

$$\rho = f \rho_f + (1-f) \rho_m$$

The convert from the volume of the fraction of the fibre to the weight fraction f_w , the ratio of the mass of the fibre

$$f_w = \frac{m_f}{m_f + m_m}$$

$$f_w = \frac{\rho_f \cdot f \cdot V}{\rho_f \cdot f \cdot V + \rho_m (1-f) \cdot V}$$

$$f = \frac{\rho_f}{\rho_f f_w + (1-f_w) \rho_m}$$

$$f = \frac{f_w}{f_w + (1-f_w) \frac{\rho_f}{\rho_m}}$$

∴ the required the volume of the fraction of fibre produced the elastic properties. the important the techniques.

or

or

Q. A.

→ (C) There are the various methods to evaluate material and component and non-destructive methods are the important category of them in many applications. The field of non-destructive evaluation or non-destructive testing (NDT) involves the identification and characterization of the damage of the surface and interior of material without the cutting part otherwise altering the material. The NDT methods can be categorized into contact and non-contact testing and evaluating the composite material.

There are various methods.

- 1) Contact method and non-destructive method
- 2) Traditional ultrasonic testing
- 3) Magnetic testing
- 4) Eddy current testing
- 5) Electromagnetic testing
- 6) Through-transmission
- 7) Infrared testing
- 8) Holography
- 9) Radiography testing
- 10) Holography
- 11) Visual inspection

NDT stands for an array inspection method to evaluate the collected data about the material or the system components.

011

Explain

04

End Notch Flexure -

method was used to determine the crack length and G level during the testing and specimen were pulled apart the initial and final crack length and were measured. The received the crack length were used the final data growth determined with function maximum and applied. The number of cycles determination growth occurred was the determined with in.

Q) extra
→ (2)

Fatigue is defined as a process of progressive localized plastic deformation of the material plastic deformation occurring the material plastic strain at high stress concentration location that may culminate in cracks or the complete fracture after the sufficient number of cycles.

Fatigue test are performed to measure the reduction in the stiffness and strength of material repeated loading and the determine total number of cycle failure. Fatigue test are performed by repeated tension, compression, tension, compression or other combination of the cycle loading with them. A method determining behavior of the material. A specified the material.

(2) extra
→ (2)



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Date: 12/01/2023

Closure Report of Grievance Application

Roll No : 29
Name of the Student : Katkar Vivek Babasaheb
Class : TE MECH
Semester : 6
Department : Mech. Engg.

1. Have you satisfied regarding your grievance as per your grievance application?

a. Yes

b. No

2. Subject teacher shows you model answer paper and marking scheme to you?

a. Yes

b. No

3. Are you want to close the report of grievance regarding marks?

a. Yes

b. No

(Signature of Student)



(Head of Department)

HOD

Mechanical Department
Shri Chhatrapati Shivaji Maharaj College
of Engineering, Nepti, Ahmednagar



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Date:03/03/2023

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HOD

Mechanical engineering



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APPLICATION FORM FOR GRIEVANCE

Roll No : 45
Name of the Student : Pathade Powad Bhansahab
Class : SE Mechanical
Semester : II
Department : Mechanical

Detail reason for Grievance:

I had seen Q1 got 3 marks but I checked model answer
My answer is right so check my questions answer
given 4 marks

Subject Name of Test Paper : Fluid Mechanics

Name of Subject Teacher : Prof S. R. Gore

Pathade
(Signature of Student)

REMARK OF THE HEAD

Department : Mechanical

Name of HOD : Prof A. B. Kate

Dated : 05/03/2023

Pathade
(Signature of HOD)



AhmednagarJilha Maratha VidyaPrasarakSamaj's
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Approved by AICTE New Delhi, Govt. of Maharashtra & Affiliated To Savitribai Phule Pune University.

Date: 05/03/2023

Closure Report of Grievance Application

Roll No : 45
Name of the Student : Pathade Prasad Bhanusaheb
Class : SE Mechanical
Semester : II
Department : Mechanical

1. Have you satisfied regarding your grievance as per your grievance application?

a. Yes

b. No

2. Subject teacher shows you model answer paper and marking scheme to you?

a. Yes

b. No

3. Are you want to close the report of grievance regarding marks?

a. Yes

b. No


(Signature of Student)


(Head of Department)

Name of Student	pathade prasad Bharsahob									Inst. Code	
Program		Course	me			Course Code					
Class	57		Semester	4th		Date of Exam	19/05/23				
Sign. of Supervisor										Sign. of Assessor	
Que. No.	1	2	3	4	5	6	7	8	9	10	②/11
Marks.	7										Total Marks 7/30

21) Explain stream Function and velocity potential Function

→ The Stream Function is defined for two-dimensional flows of various kinds. The function can be used to plot stream function, which respected the trajectories of particles in a steady flow. Streamlines are potential while the potential function is the real path.

the sign of the stream function depends on the defination used

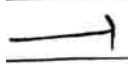
one way is to define the stream function for a two dimensional flow that the flow velocity can be expressed as

$$V = \nabla \times \psi$$

where $\psi = (0, 0, \psi)$ if the velocity vector $V = (u, v, 0)$

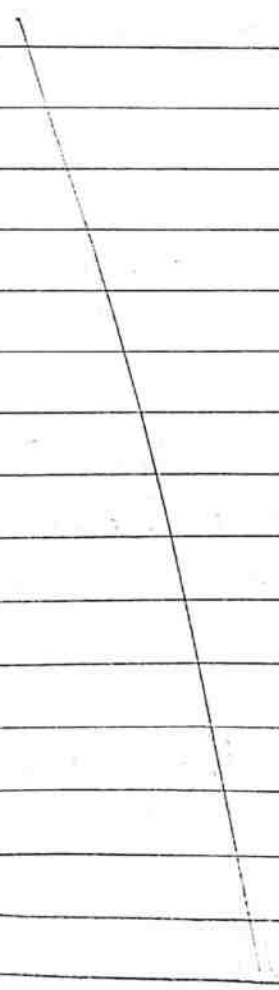
$$u = \frac{d\psi}{dy}, \quad v = \frac{d\psi}{dx}$$

b) explain path line, stream line and streak line



path line :-

pathlines are the trajectories that individual fluid particles follow. They can be thought of as recording the path of a fluid element in the flow over a certain period. The direction the path takes will be determined by the streamlines of the fluid at each moment in time.



Handwritten signature or initials.