

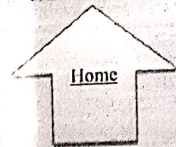
Savitribai Phule Pune University
Third Year of Computer Engineering (2019 Course)
 (With effect from Academic Year 2021-22)


 Home

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	10	01	150	350	125	50	25	700	15	05	01	21
310250	<u>Audit Course 5</u>												Grade	
Total Credit											15	05	01	21
310245 Elective I Options: 310245(A) <u>Internet of Things and Embedded Systems</u> 310245(B) <u>Human Computer Interface</u> 310245(C) <u>Distributed Systems</u> 310245(D) <u>Software Project Management</u>						310250 Audit Course 5 Options: 310250 (A) <u>Cyber Security</u> 310250 (B) <u>Professional Ethics and Etiquettes</u> 310250 (C) <u>Learn New Skills</u> 310250 (D) <u>Engineering Economics</u> 310250 (E) <u>Foreign Language</u>								
Laboratory Practice I Assignments from Systems Programming and Operating System and Elective I														

Savitribai Phule Pune University
Third Year of Computer Engineering (2019 Course)
Elective I



310245(A): Internet of Things and Embedded Systems

Teaching Scheme: Credit: 03 Examination Scheme:
 Theory: 03 Mid-Sem (TH) : 30 Marks
 Hours/Week End-Sem (TH): 70 Marks

Prerequisites Courses: Digital Electronics and Logic Design (210245)

Companion Course: Laboratory Practice I (310248)

Course Objectives:

- To understand fundamentals of Internet of Things (IoT) and Embedded Systems
- To learn advances in Embedded Systems and IoT
- To learn methodologies for IoT application development
- To learn the IoT protocols, cloud platforms and security issues in IoT
- To learn real world application scenarios of IoT along with its societal and economic impact using case studies and real time examples

Course Outcomes:

On completion of the course, learners should be able to

- CO1: Understand the fundamentals and need of Embedded Systems for the Internet of Things
- CO2: Apply IoT enabling technologies for developing IoT systems
- CO3: Apply design methodology for designing and implementing IoT applications
- CO4: Analyze IoT protocols for making IoT devices communication
- CO5: Design cloud based IoT systems
- CO6: Design and Develop secured IoT applications

Course Contents

Unit I	Introduction to Embedded Systems	07 Hours
Definition, Characteristics of Embedded System, Real time systems, Real time tasks. Processor basics: General Processors in Computer Vs Embedded Processors, Microcontrollers, Microcontroller Properties, Components of Microcontrollers, System-On-Chip and its examples, Components of Embedded Systems, Introduction to embedded processor.		
#Exemplar/Case Studies	Installation of Real Time Operating System	
*Mapping of Course Outcomes for Unit I	CO1,CO2	
Unit II	Internet of Things : Concepts	07 Hours
Introduction to Internet of Things (IoT): Definition, Characteristics of IoT, Vision, Trends in Adoption of IoT, IoT Devices, IoT Devices Vs Computers, Societal Benefits of IoT, Technical Building Blocks. Physical Design of IoT: Things in IoT, Interoperability of IoT Devices, Sensors and Actuators, Need of Analog / Digital Conversion. Logical Design of IoT: IoT functional blocks, IoT enabling technologies, IoT levels and deployment templates, Applications in IoT.		
#Exemplar/Case Studies	Exemplary device: Raspberry Pi / Arduino: Programming: Arduino IDE/ Python, Interfacing. Other IoT Devices.	
*Mapping of Course Outcomes for Unit II	CO1,CO2	
Unit III	IoT: Design Methodology	07 Hours
IoT Design Methodology: Steps, Basics of IoT Networking, Networking Components, Internet		

Structure, Connectivity Technologies, IoT Communication Models and IoT Communication APIs, Sensor Networks, Four pillars of IoT: M2M, SCADA, WSN, RFID.		
#Exemplar/Case Studies	Home Automation using IoT communication models and IoT Communication APIs.	
*Mapping of Course Outcomes for Unit III	CO3,CO4	
Unit IV	IoT Protocols	07 Hours
Protocol Standardization for IoT, M2M and WSN Protocols, RFID Protocol, Modbus Protocol, Zigbee Architecture. IP based Protocols: MQTT (Secure), 6LoWPAN, LoRa.		
#Exemplar/Case Studies	LoRa based Smart Irrigation System.	
*Mapping of Course Outcomes for Unit IV	CO4,CO5	
Unit V	Cloud Platforms for IoT	07 Hours
Software Defined Networking, Introduction to Cloud Storage Models, Communication API. WAMP: Auto Bahn for IoT, Xively Cloud for IoT. Python Web Application Framework: Django Architecture and application development with Django, Amazon Web Services for IoT. Sky Net IoT Messaging Platform, RESTful Web Service, GRPC,SOAP.		
#Exemplar/Case Studies	Smart parking, Forest fire detection	
*Mapping of Course Outcomes for Unit V	CO4, CO5	
Unit VI	Security in IoT	07 Hours
Introduction, Vulnerabilities of IoT, Security Requirements, Challenges for Secure IoT, Threat Modeling. Key elements of IoT Security: Identity establishment, Access control, Data and message security, Non-repudiation and availability, Security model for IoT, Challenges in designing IOT applications, Lightweight cryptography.		
#Exemplar/Case Studies	Home Intrusion Detection	
*Mapping of Course Outcomes for Unit VI	CO2, CO6	
Learning Resources		
Text Books:		
<ol style="list-style-type: none"> 1. Arshdeep Bahga, Vijay Madiseti, "Internet of Things – A hands-on Approach", Universities Press, ISBN: 0: 0996025510, 13: 978-0996025515 2. Olivier Hersent, David Boswarthick, Omar Elloumi, "The Internet of Things: Key Applications and Protocols", 2nd Edition, Wiley Publication, ISBN: 978-1-119-99435-0 		
Reference Books:		
<ol style="list-style-type: none"> 1. Dawoud Shenouda Dawoud, Peter Dawoud, "Microcontroller and Smart Home Networks", ISBN: 9788770221566, e-ISBN: 9788770221559 2. Charles Crowell, "IoT-Internet of Things for Beginners: An Easy-to-Understand Introduction to IoT", ISBN-13 : 979-8613100194 3. David Hanes, Gonzalo Salgueiro, Robert Barton, Jerome Henry, "IoT Fundamentals: Networking Technologies, Protocols, and Use Cases for the Internet of Things", Cisco Press, ISBN-13: 978-1-58714-456-1 ISBN-10: 1-58714-456-5 4. David Etter, "IoT Security: Practical guide book", amazon kindle Page numbers, source ISBN: 1540335011. 5. Brian Russell, Drew Van Duren, "Practical Internet of Things Security", Second Edition, 		

Packt Publishing, ISBN: 9781788625821

6. Dr. Shriram K Vasudevan, Abhishek S Nagarajan, RMD Sundaram, "Internet of Things", Wiley publication, 2nd Edition, ISBN: 9789388991018

e-Books :

- <https://www.iotforall.com/ebooks/an-introduction-to-iot>
- <https://www.qorvo.com/design-hub/ebooks/internet-of-things-for-dummies>

MOOCs Courses link

- <https://nptel.ac.in/courses/106/105/106105166/>
- <https://www.udemy.com/course/a-complete-course-on-an-iot-system-design-and-development/>
- <https://www.coursera.org/learn/iot>
- <https://nptel.ac.in/courses/108/108/108108098/>

@ The CO-PO Mapping Matrix

CO/ PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	3	1	1	2	-	-	-	-	1	-	1	-
CO2	3	2	1	2	1	-	-	-	-	-	-	-
CO3	2	3	3	3	2	3	-	-	2	-	1	-
CO4	1	2	2	2	3	3	-	-	2	1	2	2
CO5	2	2	2	3	3	3	-	-	2	1	2	2
CO6	2	2	1	2	2	2	-	1	1	-	1	1

SIR VISVESVARAYA INSTITUTE OF TECHNOLOGY, CHINCHOLI
Department of Computer Engineering
Elective I choice 2023-24 (SEM-1)

SR.NO	Timestamp	Name of student	Elective selected
1	7-8-2023 17:27:24	Aniket Arun Gayke	(A) 310245 Internet of Things and Embedded Systems
2	7-8-2023 17:57:48	Jagtap yogeshwaree bharat	(B) 310245 Human Computer Interface
3	7-8-2023 20:13:42	Prathmesh Harish Patil	(A) 310245 Internet of Things and Embedded Systems
4	7-10-2023 9:41:24	Jadhav shaunak	(D) 310245 Software Project Management
5	7-10-2023 9:44:36	kunal chaudhari	(A) 310245 Internet of Things and Embedded Systems
6	7-10-2023 14:47:45	Abhishek ajit Kushwaha	(A) 310245 Internet of Things and Embedded Systems
7	7-10-2023 14:50:40	Surve Shashikant Dilip	(A) 310245 Internet of Things and Embedded Systems
8	7-10-2023 22:27:56	Ugale suraj machhindra	(A) 310245 Internet of Things and Embedded Systems
9	7-10-2023 22:42:11	More Avadhut Prakash	(A) 310245 Internet of Things and Embedded Systems
10	7-10-2023 23:07:25	Aditya Matsagar	(A) 310245 Internet of Things and Embedded Systems
11	7-10-2023 23:51:29	Hon Uddhav Digambar	(A) 310245 Internet of Things and Embedded Systems
12	7-11-2023 0:35:04	Priti sharad ugale	(A) 310245 Internet of Things and Embedded Systems
13	7-11-2023 6:45:31	Sakshi Satish Shewale	(A) 310245 Internet of Things and Embedded Systems
14	7-11-2023 7:18:44	Ranade Gauri Dnyaneshwar	(A) 310245 Internet of Things and Embedded Systems
15	7-11-2023 7:41:58	Mali Mansi Sunil	(A) 310245 Internet of Things and Embedded Systems
16	7-11-2023 10:08:31	Jivitesh Ishwar Kale	(A) 310245 Internet of Things and Embedded Systems
17	7-11-2023 10:36:35	Sejal Yogesh Pawar	(A) 310245 Internet of Things and Embedded Systems
18	7-11-2023 11:45:44	Daware Maheshwari Sampat	(A) 310245 Internet of Things and Embedded Systems
19	7-11-2023 13:48:24	Swanand Gholap	(A) 310245 Internet of Things and Embedded Systems
20	7-11-2023 14:25:45	Tambe Sayali Subhash	(A) 310245 Internet of Things and Embedded Systems
21	7-11-2023 17:55:33	Avhad Nikita Sanjay	(A) 310245 Internet of Things and Embedded Systems
22	7-11-2023 20:59:35	Anushka Sunil Patil	(A) 310245 Internet of Things and Embedded Systems
23	7-12-2023 13:19:59	Rutuja Dnyaneshwar Sanap	(A) 310245 Internet of Things and Embedded Systems
24	7-12-2023 17:29:19	Shubhangi Santosh Pawar	(A) 310245 Internet of Things and Embedded Systems
25	7-12-2023 17:32:37	Nikhil Rajput	(A) 310245 Internet of Things and Embedded Systems
26	7-12-2023 20:15:21	Netra Sunil Walekar	(A) 310245 Internet of Things and Embedded Systems

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27	7-13-2023 9:30:40	Mhaske Vaishnavi Babasaheb	(A) 310245 Internet of Things and Embedded Systems
28	7-13-2023 9:31:16	Erande Shubham Ravsaheb	(A) 310245 Internet of Things and Embedded Systems
29	7-13-2023 9:32:16	Andhale Shruti Janardhan	(A) 310245 Internet of Things and Embedded Systems
30	7-13-2023 9:32:41	Aaditya Patil	(A) 310245 Internet of Things and Embedded Systems
31	7-13-2023 9:34:18	Soham girish mokashi	(B) 310245 Human Computer Interface
32	7-13-2023 9:34:59	Patil Harshal Ramesh	(A) 310245 Internet of Things and Embedded Systems
33	7-13-2023 9:37:04	Wable Rutuja Balasaheb	(A) 310245 Internet of Things and Embedded Systems
34	7-13-2023 9:37:09	Rudrani Suryakant Dharankar	(A) 310245 Internet of Things and Embedded Systems
35	7-13-2023 9:37:17	Valvi Vishal Virendra	(A) 310245 Internet of Things and Embedded Systems
36	7-13-2023 9:39:09	Varpe Pooja Babasaheb	(A) 310245 Internet of Things and Embedded Systems
37	7-13-2023 9:40:19	Aditi dattatray shelke	(A) 310245 Internet of Things and Embedded Systems
38	7-13-2023 9:43:27	Mansi Sampat Andhale	(A) 310245 Internet of Things and Embedded Systems
39	7-13-2023 9:43:28	Sanket Girju Tamnar	(A) 310245 Internet of Things and Embedded Systems
40	7-13-2023 9:45:18	Ranade Rutuja Raosaheb	(A) 310245 Internet of Things and Embedded Systems
41	7-13-2023 9:46:14	Tarde Tejasvi Vijay	(A) 310245 Internet of Things and Embedded Systems
42	7-13-2023 9:55:51	Raut Nikita Madhukar	(A) 310245 Internet of Things and Embedded Systems
43	7-13-2023 10:07:39	Mahatme Sakshi Rajendra	(A) 310245 Internet of Things and Embedded Systems
44	7-13-2023 10:10:47	Prutha ravindra bhavsar	(A) 310245 Internet of Things and Embedded Systems
45	7-13-2023 10:14:51	Khatale Tushar Ashok	(A) 310245 Internet of Things and Embedded Systems
46	7-13-2023 10:35:34	Jadhav Chetan Sandip	(A) 310245 Internet of Things and Embedded Systems
47	7-13-2023 10:39:12	Kshirsagar Vaishnavi Dnyaneshwar	(A) 310245 Internet of Things and Embedded Systems
48	7-13-2023 11:03:49	Tambe Sakshi Rajendra	(A) 310245 Internet of Things and Embedded Systems
49	7-13-2023 11:28:23	Ashish Lagad	(A) 310245 Internet of Things and Embedded Systems
50	7-13-2023 11:53:26	Chaitanya Kiran Jadhav	(A) 310245 Internet of Things and Embedded Systems
51	7-13-2023 11:57:29	Rohit Sanjay Mahajan	(A) 310245 Internet of Things and Embedded Systems
52	7-13-2023 13:51:51	Aman Narayan Pawar	(A) 310245 Internet of Things and Embedded Systems
53	7-13-2023 14:11:21	Avhad Krushna Navnath	(A) 310245 Internet of Things and Embedded Systems
54	7-13-2023 15:03:11	Shaikh Mo Zaid Anis	(A) 310245 Internet of Things and Embedded Systems
55	7-13-2023 17:51:16	Shinde Dharmnath Somnath	(B) 310245 Human Computer Interface
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57	7-14-2023 7:59:58	Gunjal Vishal Shivaji	(A) 310245 Internet of Things and Embedded Systems

58	7-14-2023 10:57:35	Kadam Prashant Bajirao	(A) 310245 Internet of Things and Embedded Systems
59	7-14-2023 11:51:52	Bhushan Bhanudas Potdar	(A) 310245 Internet of Things and Embedded Systems
60	7-14-2023 17:36:10	Pratik Bhausahab Dhumal	(A) 310245 Internet of Things and Embedded Systems
61	7-15-2023 13:26:07	Nishigandha Ajay Ingle	(A) 310245 Internet of Things and Embedded Systems
62	7-15-2023 18:13:47	Nikita Kiran Thoke	(A) 310245 Internet of Things and Embedded Systems
63	7-16-2023 7:56:15	Namrata Sanjay Waje	(A) 310245 Internet of Things and Embedded Systems
64	7-16-2023 8:21:11	Patole Pratik Suryabhan	(A) 310245 Internet of Things and Embedded Systems


Mr. Sharad M. Rokade
HOD, Computer Department
Asstt. Prof. & H.O.D
Computer Engineering Department
SVIT, Chincholi,
Tal. Sinnar, Dist. Nashik (422 101)

BE Electrical (2019 Course)

SEM-I

Course Code	Course Name	Teaching Scheme				Examination Scheme						Credit				
		Th	Pr	Tu	PW	ISE	ESE	TW	PR	OR	Total	Th	Pr	Tu	PW	Total
		403141	Power System Operation & Control	3	2	-	-	30	70	25	-	25	150	3	1	-
403142	Advanced Control System	3	2	-	-	30	70	-	-	50	150	3	1	-	-	4
403143	Elective-I	3	2	-	-	30	70	-	-	25	125	3	1	-	-	4
403144	Elective-II	3	-	2*	-	30	70	25	-	-	125	3	-	1	-	4
403145	Project Stage-I	-	-	-	4	-	-	50	-	50	100	-	-	-	2	2
403146	MOQCs	-	-	-	-	-	-	50	-	-	50	-	-	-	2	2
403147	Audit Course-VII	2#	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total		12	6	2	4	120	280	150	-	150	700	12	3	1	4	20
403143: Elective-I				403144: Elective-II				403147: Audit Course-VII								
403143A: PLC and SCADA 403143B: Power Quality Management 403143C: High Voltage Engineering 403143D: Robotics and Automation				403144A: Alternate Energy System 403144B: Electrical & Hybrid Vehicle 403144C: Special-purpose Machines 403144D: HVDC & FACTS				403147 A: German Language I 403147B: Engineering Economics I 403147C: Sustainability(IGBC)								

SEM-II

Course Code	Course Name	Teaching Scheme				Examination Scheme						Credit				
		Th	Pr	Tu	PW	ISE	ESE	TW	PR	OR	Total	Th	Pr	Tu	PW	Total
403148	Switchgear and Protection	3	2	-	-	30	70	25	-	50	175	3	1	-	-	4
403149	Advanced Electrical Drives & Control	3	2	-	-	30	70	25	50	-	175	3	1	-	-	4
403150	Elective-III	3	-	-	-	30	70	-	-	-	100	3	-	-	-	3
403151	Elective-IV	3	-	-	-	30	70	-	-	-	100	3	-	-	-	3
403152	Project stage II	-	-	-	12	-	-	100	-	50	150	-	-	-	6	6
403153	Audit course VIII	2#	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total		12	4	-	12	120	280	150	50	100	700	12	2	-	6	20
403150: Elective-III				403151: Elective-IV				403153: Audit Course-VIII								
403150 A : Digital Control System 403150 B : Restructuring and Deregulation 403150 C: Smart Grid 403150 D: Sensor Technology (Open Elective)				403151A: EHV AC Transmission 403151B : Illumination Engineering 403151C: Electromagnetic Fields 403151D: AI and ML (Open Elective)				403153A: German Language II 403153B: Engineering Economics II 403153C: Green Building								

* For the tutorial, one credit is given. # Audit Course: Conduct over and above these lectures.

H.O.D.

Dept. of Electrical Engg.
Shri Visvesvaraya Institute of Technology
Chincholi, Nashik - 422101

Sir Visvesvaraya Institute of Technology, Chincholi

ELECTRICAL ENGINEERING DEPARTMENT

SEM-I 2023-24

Class:BE

Sr.NO	Seat No	Name of the candidate	Name EL-I& II
1	B190272506	EKHANDE YASH VILAS	Elective I 403143HIGH VOLTAGE ENGINEERING &Elective II 403144B ELECTRIC AND HYBRID VEHICAL
2	B190272512	KADAM TEJASHREE YOGESH	
3	B190272513	KALOKHE SWAPNIL HARIBHAU	
4	B190272523	PRACHI RAJU NAGARE	
5	B190272525	SANAP PRATHAMESH RAJENDRA	
6	B190272544	UGALE SAHIL BHASKAR	

ACADEMIC COORDINATOR

H.O.D.
Dept. of Electrical Engg.
Sir Visvesvaraya Institute of Technology
Chincholi, Nashik - 422 101

Pravara Rural Education Society's

Sir Visvesvaraya Institute of Technology, Chincholi

ELECTRICAL ENGINEERING DEPARTMENT


SEM-II

2023-24

Class:BE

Sr.NO	Seat No	Name of the candidate	Name EL-III& IV
1	B190272506	EKHANDE YASH VILAS	Elective III 403150C Smart Grid&Elective IV 403151B Illumination Engineering
2	B190272512	KADAM TEJASHREE YOGESH	
3	B190272513	KALOKHE SWAPNIL HARIBHAU	
4	B190272523	PRACHI RAJU NAGARE	
5	B190272525	SANAP PRATHAMESH RAJENDRA	
6	B190272544	UGALE SAHIL BHASKAR	


ACADEMIC COORDINATOR


H.O.D.
Dept. of Electrical Engg.
Sir Visvesvaraya Institute of Technology
Chincholi, Nashik - 422101

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

H.O.D.
 Department of Electronics & Telecommunication Engg
 SVIT, Tal. Sinnar,
 Dist. Nashik

Savitribai Phule Pune University
Fourth Year of E & Tc Engineering (2019 Course)
404191 (E): Mobile Computing (Elective - V)

Teaching Scheme:	Credit	Examination Scheme:
Theory: 03 Hrs. / Week	03	In-Sem (Theory): 30 Marks End Sem (Theory): 70 Marks

Prerequisite Courses, if any:

1. Basics of Communication Technologies.
2. Fundamental of Networking

Companion Course, if any:

Course Objectives:

1. To learn Wireless technologies and planning Ad-hoc Network.
2. To study the basics of wireless, cellular technology and the working of Mobile IP, ad hoc network, features of mobile operating systems.
3. To understand the use of M-Commerce application.

Course Outcomes: On completion of the course, learner will be able to -

- CO1: Understand** concepts of Mobile Communication.
- CO2: Analyse** next generation Mobile Communication System.
- CO3: Understand** network layers of Mobile Communication.
- CO4: Understand** IP and Transport layers of Mobile Communication.
- CO5: Study** of different mathematical models.
- CO6: Understand** different mobile applications.

Course Contents

Unit I	Introduction to Mobile Computing	6 Hrs.
Introduction to Mobile Computing: Applications of Mobile Computing- Generations of Mobile Communication Technologies, Multiplexing: Spread spectrum, MAC Protocols: SDMA, TDMA, FDMA, and CDMA.		
Mapping of Course Outcomes for Unit I	CO1: Understand concepts of Mobile Communication.	
Unit II	Mobile Telecommunication System	7 Hrs.
Introduction to Cellular Systems, GSM architecture, Protocols, Connection Establishment, Frequency Allocation, Routing, Mobility Management, Security, GPRS and UMTS: Architecture, Handover, Security.		
Introduction to 5G: Introduction, 5G network architecture, Applications, 5G enable technologies, Recent trends in Telecommunication Industries.		
Mapping of Course Outcomes for Unit II	CO2: Analyse next generation Mobile Communication System.	

Unit III	Network Layer	6 Hrs.
<p>Mobile IP, DHCP, AdHoc, Proactive protocol-DSDV, Reactive Routing Protocols: DSR, AODV, Hybrid routing: ZRP, Multicast Routing: ODMRP, Vehicular Ad Hoc networks (VANET), MANET Vs VANET: Security.</p>		
Mapping of Course Outcomes for Unit III	CO3: Understand network layers of Mobile Communication.	
Unit IV	Mobile IP and Transport Layer	8 Hrs.
<p>Mobile IP: Need of mobile IP, IP packet delivery, Agent Discovery, Registration, Tunnelling and encapsulation, Route optimization, IP Handoff.</p> <p>Transport Layer: Overview of Traditional TCP and implications of mobility control. Improvement of TCP: Indirect TCP, Snoop TCP, Mobile TCP, Fast Retransmit/fast recovery, Time-out freezing, Selective retransmission, Transaction-oriented TCP.</p>		
Mapping of Course Outcomes for Unit IV	CO4: Understand IP and TCP layers of Mobile Communication.	
Unit V	Fading Channels	7 Hrs.
<p>Rayleigh Fading and Statistical Characterization, Properties of Rayleigh Distribution, BER in Fading, Narrowband vs Wideband Channels, Characterization of Multipath Fading Channels, Choice of Modulation, Coherent versus Differential Detection, BER in Fading, Ricean Fading.</p>		
Mapping of Course Outcomes for Unit V	CO5: Study of different mathematical models.	
Unit VI	Operating System & Applications of Mobile Computing	8 Hrs.
<p>Operating System: A Few Basic Concepts, Special Constraints and Requirements of Mobile OS, A Survey of Commercial Mobile Operating Systems, Windows Mobile, Palm OS, Symbian OS, iOS, Android, Blackberry OS, A Comparative study of Mobile OS, OS for sensor Network.</p> <p>Applications: M-Commerce, Business to Consumer (B2C) Applications, Business to Business (B2B) Applications. Structure of M-Commerce, Pros and Cons of M-Commerce, Mobile Payment System, Mobile Payment Schemes, Desirable properties of a Mobile Payment system, Mobile Payment solutions, Process of Mobile Payment, Security Issues.</p>		
Mapping of Course Outcomes for Unit VI	CO6: Understand different mobile applications.	
Learning Resources		
Text Books:		
<ol style="list-style-type: none"> 1. Clint Smith, Daniel Collins, "Wireless Networks", 3rd Edition, McGraw Hill Publications, 2. Share Conder, Lauren Darcey, "Android Wireless Application Development", Volume I, 3rd Edition, Pearson. 		

Reference Books:

1. Jochen Schiller, "Mobile Communications", 2nd Edition, Pearson.
2. Paul Bedell, "Cellular networks: Design and Operation – A real world Perspective", Outskirts Press.
3. Zigurd Mednieks, Laird Dornin, G, Blake Meike and Masumi Nakamura, "Programming Android", O'Reilly.
4. Alasdair Allan, "iPhone Programming", O'Reilly.
5. Donny Wals, "Mastering iOS 12 Programming".
6. Reza B"Far, "Mobile Computing principles", Cambridge University Press.

MOOC / NPTEL Courses:

1. NPTEL Course "Mobile Computing" by Prof. Sridhar Iyer and Prof. Pushpendra Singh IIT Madras

Link of the Course: <https://nptel.ac.in/courses/106106147>

2. NPTEL Course "Fundamentals of MIMO Wireless Communication" by Prof. Suvra Sekhar Das IIT Kharagpur

Link of the Course: <https://nptel.ac.in/courses/117105132>

3. NPTEL Course "Principles of Modern CDMA/MIMO//OFDM Wireless Communications" by Prof. Aditya. K. Jagannatham IIT Kanpur

Link of the Course: <https://nptel.ac.in/courses/117104115>

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Dist. Nashik

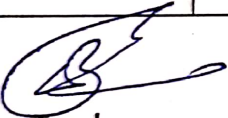
Electronics and Telecommunication Engineering


Notice

Date: 1.12.2023

All BE E&TC students are here by informed that following Elective Subjects are offered by PPU and all are requested to give their choice for elective subject in given format

Academic Year	Semester	Name of the Class	Name of Elective Subject
2023 24	Sem 2	B.E. E&TC(2019 Course)	Elective - 5 1. Biomedical Signal Processing 2. Industrial Drives & Automation 3. Android Development 4. Embedded System Design 5. Mobile Computing
			Elective - 6 1. System on Chip 2. Nano Electronics 3. Remote Sensing 4. Digital Marketing 5. Open Elective


Class Teacher
Mr. Liladhar Bhamare


HOD ETC
Dr Rana Mahajan
H.O.D.
Department of Electronics & Telecommunication Engg
S.P.T.E., Tal. Simran,
Dist. Nashik

H.O.D.
Department of Electronics & Telecommunication Engg
S.P.T.E., Tal. Simran,
Dist. Nashik

Electronics and Telecommunication Engg
Elective V subject choice B.E. E&TC 2023 24 Sem 2

Roll No	Name	Subject elected	Signature
1	Darshan Purbija	mobile computing	
2	Pranav Karwar	Mobile Computing	
3	Shabab Ashwin	mobile computing	
4	Ganesh Nandini	mobile computing	
5	Rahul Sadgir	Mobile computing	
6	Shital Ashav	Mobile computing	
7	Aditya Shinde	Mobile Computing	
8	Shabab Ashwin	mobile computing	
9	Keyur Patil	MC	
10	Sachin Vastak	MC	
11	Ankit mawga	mobile computing	
12	shubhangi Guesal	Mobile computing	
13	Akash Maity	Mobile Computing	
14	Gite Purbija	mobile computing	
15	Shubham mundlik	Mobile computing	
16	chaitali kate	mobile computing	
17	Katara Purbija	mobile computing	
18	Deon Dilatama	mobile computing	
19	Shinde Shmuthi	mobile computing	

Class Teacher
Mr. Liladhar Bhamare

Dr Rana Mahajan

H.O.D.
 Department of Electronics & Telecommunication Engg
 SVET, Tal. Sinnar,
 Dist. Nashik

Electronics and Telecommunication Engg

Elective VI subject choice B.E. E&TC 2023 24

Sem 2

Roll No	Name	Subject elected	Signature
1	Pawar Rutuja	DM digital mkt	
2	Pranod Karwar	Digital Marketing	
3	Dhatrak Ashwini	DM	
4	Atavif Nandini	DM	
5	Rahul Sadgir	Digital marketing	
6	Shital Aghav	DM	
7	Aditya Shinde	Digital Marketing	
8	Ashwini Bhabad	DM	
9	Keyur Poti	DM	
10	Sate Vathal	DM	
11	Ankit maurya	Digital marketing	
12	shubhangi Guesal	Digital marketing	
13	Akash Maity	Digital Marketing	
14	Gurte Rutuja	Digital Marketing	
15	shubham mandlik	Digital marketing	
16	chaitali kate	DM	
17	kokate Rutuja	DM	
18	Degre Poothama	DM	
19	shinde smriti	DM	

Class Teacher

Mr. Liladhar Bhamare

HOD ETC

Dr Rana Mahajan

H.O.D
Department of Electronics & Telecommunication Engg.
SVET, Tal. Sionat,
Dist. Nashik

Savitribai Phule Pune University														
Third Year of Information Technology (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			
		Theory	Practical	Tutorial	Mid-Sem	End-Sem	Term work	Practical	Oral	Total	Lecture	Practical	Tutorial	Total
314441	Theory of Computation	03	-	-	30	70	-	-	-	100	3	-	-	3
314442	Operating Systems	03	-	-	30	70	-	-	-	100	3	-	-	3
314443	Machine Learning	03	-	-	30	70	-	-	-	100	3	-	-	3
314444	Human Computer Interaction	03	-	-	30	70	-	-	-	100	3	-	-	3
314445	Elective-I	03	-	-	30	70	-	-	-	100	3	-	-	3
314446	Operating Systems Lab	-	04	-	-	-	25	25	-	50	-	2	-	2
314447	Human Computer Interaction- Lab	-	02	-	-	-	-	-	50	50	-	1	-	1
314448	Laboratory Practice-I	-	04	-	-	-	25	25	-	50	-	2	-	2
314449	Seminar	-	01	-	-	-	50	-	-	50	-	1	-	1
314450	Audit Course 5	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Credit											15	06	-	21
Total		15	11	-	150	350	100	50	50	700	15	06	-	21

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

<p>Elective-I:</p> <p>314445A- Design and Analysis of Algorithm</p> <p>314445B- Advanced Database and Management System</p> <p>314445C- Design Thinking</p> <p>314445D- Internet of Things</p> <p>Laboratory Practice-I:</p> <p>Assignment from Machine Learning and Elective I</p>	<p>Audit Course 5:</p> <p>314450A-Banking and Insurance</p> <p>314450B-Startup Ecosystems</p> <p>314450C- Foreign Language-(Japanese Language- III)</p>
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Note: Students of T.E. (Information Technology) can opt any one of the audit course from the list of audit courses prescribed by BoS (Information Technology)

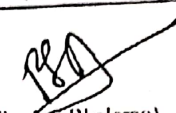


Pravara Rural Education Society's
SIR VISVEV'SRAYA INSTITUTE OF TECHNOLOGY, Nashik
DEPARTMENT OF INFORMATION TECHNOLOGY
TEIT Elective Choice (SEM-I 2023-24)

Sr.No	Roll No	Name of Student	Elective II	Sign
1	1	ANDHALE MAYUR NATHU	Internet of Things	Andhale
2	2	BADGUJAR NIRAJ VIJAY	Internet of Things	Niraj
3	3	BHABAD NISHANT ANIL	Internet of Things	Nishant
4	4	BHAGAT PIYUSH SANJAY	Internet of Things	Piyush
5	5	BODKE NALINEE SOMANATH	Internet of Things	Nalinee
6	6	BODKE SHRADDHA DIRAK	Internet of Things	Shraddha
7	7	DAWARE RAHUL KIRAN	Internet of Things	Rahul
8	8	DONGARE SNEHAL ANIL	Internet of Things	Snehal
9	9	DAWKHAR ANUJ RAVINDRA	Internet of Things	Anuj
10	10	DESHPANDE HARSH PRAVIN	Internet of Things	Harsh
11	11	DUMBARE VAISHNAVI BABASAHEB	Internet of Things	Vaishnavi
12	12	GADAKH NIKHIL BHAUSAHEB	Internet of Things	Nikhil
13	13	GAWALI TUSHAR DNYANESHWAR	Internet of Things	Tushar
14	14	GHUGE TEJAL SURESH	Internet of Things	Tejal
15	15	GHUGE VAISHNAVI LAHANU	Internet of Things	Vaishnavi
16	16	GODSE RITU MANGESH	Internet of Things	Ritu
17	17	GADAKH MAHESHWARI MADHUKAR	Internet of Things	Maheshwari
18	18	JADHAV RUTUJA KISHOR	Internet of Things	Rutuja
19	19	JAWALE ATHARV MANOHAR	Internet of Things	Atharv
20	20	KANGANE ANKITA SUBHASH	Internet of Things	Ankita
21	22	KAVTHE TEJAL SUNIL	Internet of Things	Tejal
22	23	MORE RUTUJA ANIL	Internet of Things	Rutuja
23	24	NANDE KUNAL DEVIDAS	Internet of Things	Kunal
24	25	PANSARE VINAY BABASAHEB	Internet of Things	Vinay
25	26	SONAWANE JAYESH ISHWAR	Internet of Things	Jayesh
26	27	SONAWANE PALLAVI SHARAD	Internet of Things	Pallavi
27	28	SADGIR SARITA RAMBHAU	Internet of Things	Sarita
28	29	SANAP GAYATRI AJAY	Internet of Things	Gayatri
29	30	SANAP ROHIT CHANDRAKANT	Internet of Things	Rohit
30	31	SAYYED MOHAMMAD ABUTORAB JAFRI	Internet of Things	Mohammad
31	32	SHELKE ADITI ARUN	Internet of Things	Aditi
32	33	SHINDE BHAKTI DATTATRAY	Internet of Things	Bhakti
33	34	SHIRSAT VIKI PUNJARAM	Internet of Things	Viki
34	35	SHIVOM RAJENDRA PANDHARE	Internet of Things	Shivom
35	36	SONAWANE VISHAKHA ANAND	Internet of Things	Vishakha
36	37	TIRPUDE ROHAN BUDDHESHWAR	Internet of Things	Rohan
37	38	THOMBARE SHUBHANGI RADHAKISAN	Internet of Things	Shubhangi
38	39	WAGH HARSHAL PRASHANT	Internet of Things	Harshal
39	40	WAKODE PRANIT SANJAY	Internet of Things	Pranit
40	41	WARUNGASE VARSHA NANDU	Internet of Things	Varsha
41	42	GARJE ASHWINI PRALHAD	Internet of Things	Ashwini
42	43	MOHITE SAKSHI BALASAHEB	Internet of Things	Sakshi
43	45	LIPTTE GAURI VIJAY	Internet of Things	Gauri
44	46	AGHAV RUTUJA SHARAD	Internet of Things	Rutuja
45	47	PAWAR SIDDHESH NAVNATH	Internet of Things	Siddhesh
46	48	SONAWANE YOGITA NAMDEO	Internet of Things	Yogita
47	49	WAMANE DEVENDRA SURYABHAN	Internet of Things	Devendra
48	P51	GHUMARE AMIT VILAS	Internet of Things	Amit

49	52	GUNJAL RUTIK DNYANDEO	Internet of Things	PK
50	54	PATIL RUGVED PRADIP	Internet of Things	Rutvik
51	55	KOLHE PRATIK RAJENDRA	Internet of Things	Pratik
52	56	DEORE VIRAJ CHANDRAKANT	Internet of Things	Viraj
53	P57	LAHANE NIRMALA P.	Internet of Things	Nirmala
54	58	KURHADE OM SHANTARAM	Internet of Things	Om
55	P59	MAPARI DARSHAN ARUN	Internet of Things	Darshan
56	61	SANGALE PAYAL SAMPAT	Internet of Things	Payal
57	62	DESHMUKH AKASH SAMBHAJI	Internet of Things	Akash
58	63	WALVE VIJAYA RAJARAM	Internet of Things	Vijaya
59	P64	DHANRAJ ARATI SUNIL	Internet of Things	Arati
60	P65	CHINE AARTI MOHAN	Internet of Things	Aarti
61	66	BHAGAT SAKSHI VIJAY	Internet of Things	Sakshi
62	67	RUMANE PRITI GANGARAM	Internet of Things	Priti
63	68	JADHAV POOJA GORAKH	Internet of Things	Pooja


 (Ms. Suvama Chogare)
 TEIT Class Teacher


 (Mr. Rushikesh S Bhalerao)
 HOD, I.T. Deptt.
 Department of Information Technology
 Sir Visvesvaraya Institute of Technology
 Chincholi, Nashik - 422

Savitribai Phule Pune University
Third Year of Information Technology (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
<u>314451</u>	Computer Networks & Security	03	-	-	30	70	-	-	-	100	03			03
<u>314452</u>	Data Science and Big Data Analytics	03	-	-	30	70	-	-	-	100	03			03
<u>314453</u>	Web Application Development	03	-	-	30	70	-	-	-	100	03			03
<u>314454</u>	Elective-II	03	-	-	30	70	-	-	-	100	03			03
<u>314455</u>	Internship	-	04	-	-	-	100	-	-	100		04		04
<u>314456</u>	Computer Networks & Security-Lab	-	04	-	-	-	25	-	50	75		02		02
<u>314457</u>	DS & BDA-Lab	-	02	-	-	-	25	25	-	50		01		01
<u>314458</u>	Laboratory Practice-II	-	04	-	-	-	50	25	-	75		02		02
<u>314459</u>	Audit Course 6	-	-	-	-	-	-	-	-	-	-	-	-	-
Total											12	09	-	21
Total		12	14	-	120	280	200	50	50	700	12	09	-	21

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

Elective-II:

314454A- Artificial Intelligence

314454B- Cyber Security

314454C -Cloud Computing

314454D- Software Modeling and Design

Laboratory Practice-II:

Assignments from Web Application Development and Elective-II.

Note: Students of T.E. (Information Technology) can opt any one of the audit course from the list of audit courses prescribed by BoS (Information Technology)

Audit Course 6:

314459A - Green and Unconventional Energy

314459B - Leadership and Personality Development

314459C- Foreign Language-(Japanese Language- IV)



Pravara Rural Education Society's
SIR VISVEVSRAYA INSTITUTE OF TECHNOLOGY, Nashik
DEPARTMENT OF INFORMATION TECHNOLOGY
TEIT Elective Choice (SEM-II 2023-24)

Roll No	Name of Student	Elective I	Sign
1	AGHAY RUTUJA SHARAD	Software Modeling & Design	[Signature]
2	ANDHALLI MAYUR NATHU	Software Modeling & Design	[Signature]
3	BADGUJAR NIRAJ VIJAY	Software Modeling & Design	[Signature]
4	BIHARAD NISHANT ANIL	Software Modeling & Design	[Signature]
5	BIHAGAT PIYUSH SANJAY	Software Modeling & Design	[Signature]
6	BIHAGAT SAKSHI VIJAY	Software Modeling & Design	[Signature]
7	BODKE NALINI SOMANATH	Software Modeling & Design	[Signature]
8	BODKE SHRADDHA DIPAK	Software Modeling & Design	[Signature]
9	DAWARE RAHUL KIRAN	Software Modeling & Design	[Signature]
10	DAWKHAR ANUJ RAVINDRA	Software Modeling & Design	[Signature]
11	DEORI VIRAJ CHANDRAKANT	Software Modeling & Design	[Signature]
12	DESIKURU AKASH SAMBHAJI	Software Modeling & Design	[Signature]
13	DESHIPANDE HARSH PRAVIN	Software Modeling & Design	[Signature]
14	DONGARE SNEHAL ANIL	Software Modeling & Design	[Signature]
15	DUMBARE VAISHNAVI BABASAHEB	Software Modeling & Design	[Signature]
16	GADAKH MAHI SHWARI MADHUKAR	Software Modeling & Design	[Signature]
17	GADAKH NIKHIL BHAUSAHEB	Software Modeling & Design	[Signature]
18	GARJE ASHWINI PRALHAD	Software Modeling & Design	[Signature]
19	GAWALI TUSHAR DNYANESHWAR	Software Modeling & Design	[Signature]
20	GHUGE TEJAL SURESH	Software Modeling & Design	[Signature]
21	GHUGL VAISHNAVI LAHANU	Software Modeling & Design	[Signature]
22	GODSE RITU MANGESH	Software Modeling & Design	[Signature]
23	GUNJAL RUTIK DNYANDEV	Software Modeling & Design	[Signature]
24	JADHAV POOJA GORAKH	Software Modeling & Design	[Signature]
25	JADHAV RUTUJA KISHOR	Software Modeling & Design	[Signature]
26	JAWALE ATHARV MANOHAR	Software Modeling & Design	[Signature]
27	KANGANE ANKITA SUBHASH	Software Modeling & Design	[Signature]
28	KAVTHE ILIJAL SUNIL	Software Modeling & Design	[Signature]
29	KOLHE PRATIK RAJENDRA	Software Modeling & Design	[Signature]
30	LIPTE GAURI VIJAY	Software Modeling & Design	[Signature]
31	MAPARI DARSHAN ARUN	Software Modeling & Design	[Signature]
32	MOHITE SAKSHI BALASAHEB	Software Modeling & Design	[Signature]
33	MORI RUTUJA ANIL	Software Modeling & Design	[Signature]
34	NANDE KUNAL DEVIDAS	Software Modeling & Design	[Signature]
35	PANSARE VINAY BABASAHEB	Software Modeling & Design	[Signature]
36	PATIL JIVAN SURESH	Software Modeling & Design	[Signature]
37	PATIL RUGVLD PRADIP	Software Modeling & Design	[Signature]
38	PAWAR SIDDHESH NAYNATH	Software Modeling & Design	[Signature]
39	PRITHI GANGARAM RUMANE	Software Modeling & Design	[Signature]
40	SADGIR SARITA RAMBHAU	Software Modeling & Design	[Signature]
41	SANAP GAYATRI AJAY	Software Modeling & Design	[Signature]
42	SANAP ROHIT CHANDRAKANT	Software Modeling & Design	[Signature]
43	SAYYED MOHAMMAD ABUTORAB JAFRI	Software Modeling & Design	[Signature]
44	SHELKE ADITH ARUN	Software Modeling & Design	[Signature]
45	SHINDE BHAKTI DATTATRAY	Software Modeling & Design	[Signature]
46	SHIRSAT VIKI PUNJARAM	Software Modeling & Design	[Signature]
47	SHIVOM RAJENDRA PANDHARI	Software Modeling & Design	[Signature]

48	SONAWANE JAYSHISHWAR	Software Modeling & Design	Pr...
49	SONAWANE PALLAVI SHARAD	Software Modeling & Design	Pr...
50	SONAWANE VISHAKHA ANAND	Software Modeling & Design	Sonawane
51	SONAWANE YOGITA NAMDEO	Software Modeling & Design	Sonawane
52	THOMBARE SHUBHANGI RADHAKISAN	Software Modeling & Design	Shubhangi
53	TIRPUDE ROHAN BUDDHISHWAR	Software Modeling & Design	Rohan
54	WAGH HARSHAL PRASHANT	Software Modeling & Design	Harshal
55	WAKODE PRANIL SANJAY	Software Modeling & Design	Pranil
56	WALVE VJAYA RAJARAM	Software Modeling & Design	Vjaya
57	WAMANE DIVINDRA SURYABHAN	Software Modeling & Design	Divindra
58	WARUNGASE VARSHA NANDU	Software Modeling & Design	Varsha
59	KASAR LAXMI PUNAMCHAND	Software Modeling & Design	Laxmi
59	LAHANE NIRMALA PRAKASHI	Software Modeling & Design	Nirmala
60	CHINI ARATI MOHAN	Software Modeling & Design	Arati
61	DHANRAJ AARTI SUNIL	Software Modeling & Design	Aarti
62	GHUMARE AMIT VILAS	Software Modeling & Design	Amit
63	SHINDI DURGESH DEEPAK	Software Modeling & Design	Durgesh

(Ms. Priyanka Ambilwade)
TEIT Class Teacher

(Dr. Praloha V. Kashid)
HOD-IT Department

Department of Information Technology
Government Institute of Technology
Chitaval, Nashik - 422001


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 ^s	-	-	-	-	-	-	-	-	-	-	-	-	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 ^s	-	-	-	-	-	-	-	-	-	-	-	-	NC	
Total		12	16	-	120	280	175	-	125	700	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.


H.O.D
 DEPARTMENT OF MECHANICAL ENGG
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 TECHNOLOGY, CHINCHOLI,
 NASIK - 422101

Sir Visvesvaraya Institute of Technology, Nashik
Department of Mechanical Engineering
Elective Choice from Students 2023-24 Sem. I

Class - BE Mechanical

All the students of BE Mechanical Engineering are hereby informed that kindly give Elective choice for Academic Year 2023-24 Sem. I by tick mark (✓) in respective box.

402044A Automobile Design

402044D Industrial Engineering

402044B Design of Heat Transfer Equipments

402044E Internet of Things

402044C Modern Machining Processes

402044F Computational Fluid Dynamics

Roll No.	Name of the Student	Elective III					Sign.
		Automobile Design	Design of Heat Transfer Equipments	Modern Machining Processes	Industrial Engineering	Internet of Things	
1	Datir Akshay Suresh			✓			<i>D. S. Datir</i>
2	Avhad Nikita Bhaskar			✓			<i>Avhad</i>
3	Sahane Vishal Bharat						Fail
4	Galkwad Aditya Ramesh			✓			<i>Galkwad</i> <i>CRS</i>
5	Ganore Prathamesh Manoj			✓			<i>Prathamesh</i>
6	Chavan Darshan Subhash			✓			<i>Darshan</i>
7	Takate Samadhan Eknath			✓			<i>Takate</i>
8	Binnar Nilesh Dinkar			✓			<i>Nilesh</i>
9	Avhad Pratik Ashok			✓			<i>Pratik</i>
10	Varma Pushpak Mahesh			✓			<i>Pushpak</i>
11	Soudankar Prathamesh N						Fail

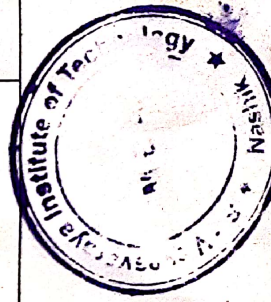
		AD	DOHTE	MMP	IE	IOT	CFD	
12	Gawand Pratik Valmik			✓				<i>[Signature]</i>
13	Suryawanshi Kunal Rajesh							Fail
14	Surve Sudhir Vinod							Fail
15	Dahale Shubham Arun			✓				<i>[Signature]</i>
16	Kale Prajwal Dnyaneshwar			✓				<i>[Signature]</i>
17	Sadgir Kiran Baban			✓				<i>[Signature]</i>
18	Hagawane Saurabh Suresh			✓				<i>[Signature]</i>
19	Sadgir Prashant Pandit							Fail
20	Balak Siddharth Shivnath							Fail
21	Andhale Vishal Santosh							Fail

[Signature]
Elective Subject Teacher
 (Ms. Kadlag V.L.)

[Signature]
H.O.D.
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 NASIK - 422101

Programme Code	Programme name	Year of Introduction	Status of implementation of CBCS / elective course system (Yes/No)	Year of Implementation of CBCS / elective course system	Link to the relevant document
512550710	MBA	2019	YES	2019	

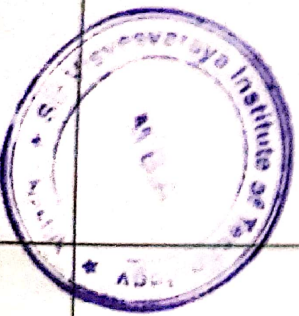
Academic Year	Semester	Name of Class with pattern	Name of elective choice available	Name of elective subject selected by students	No. of students
MBA					
2023-24	I	MBA-I (SEM-I) 2019 Pat	Elective-MBA-I (SEM-I) 1. Management Fundamental-107 2. Indian Economy-108 3. Entrepreneurship development-109 4. Essential of psychology for managers-110 5. Legal Aspects of business-111 6. Demand Analysis and forecasting-112	* Management Fundamental-107 * Entrepreneurship development-109 * Legal Aspects of business-111	60
2023-24	I	MBA-I (SEM-I) 2019 Pat	Elective-MBA-I (SEM-I)-INTERNAL 1. Verabl communication lab-113 2. Enterprise Analysis & desk Research-114 3. Selling & Negotiation skill lab-115 4. MS Excel-116 5. Business System & Procedures-117 6. Managing innovation-118 7. Foreign Language-I --119	* Verabl communication lab-113 * Enterprise Analysis & desk Research-114 * Selling & Negotiation skill lab-115	60
2023-24	II	MBA-I (SEM-II) 2019 Pat	1. Contemporary Frameworks in Management 2. Geopolitics & World Economic Systems		



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			<ol style="list-style-type: none"> 3. Start Up and New Venture Management 4. Qualitative Research Methods 5. Business, Government & Society 6. Business Process Re-engineering 		
	II	MBA-I (SEM-II) 2019 Pat	<ol style="list-style-type: none"> 1. Written Analysis and Communication Lab 2. Industry Analysis & Desk Research 3. Entrepreneurship Lab 4. SPSS 5. Foreign Language – II 		
		MKT	<ol style="list-style-type: none"> 1. Integrated Marketing Communications 217MKT 2. Product & Brand Management 218MKT 3. Personal Selling Lab 219MKT 4. Digital Marketing – I 220MKT 5. Marketing of Financial Services – I 221MKT 6. Marketing of Luxury Products 222MKT 		
		FIN	<ol style="list-style-type: none"> 1. Securities Analysis & Portfolio Management 217 FIN 2. Futures and Options 218 FIN 3. Direct Taxation 219 FIN 4. Financial Reporting 220FIN 5. Retail Credit Management- Lending & Recovery 221FIN 6. Banking Laws & Regulations 222 FIN 7. Fundamentals of Life Insurance – Products and Underwriting 223 FIN 8. General Insurance - Health and Vehicle 224 FIN 		
		HRM	<ol style="list-style-type: none"> 1. Labour Welfare 217 HRM 2. Lab In Recruitment and Selection 218 HRM 3. Learning and Development 219 HRM 4. Public Relations & Corporate Communications 220HRM 5. HR Analytics 221 HRM 6. Conflict and Negotiation Management 222 HRM 		
		OSCM	<ol style="list-style-type: none"> 1. Planning & Control of Operations 217 OSCM 2. Productivity Management 218 		



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Master Of Business Administration

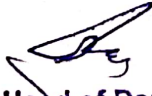


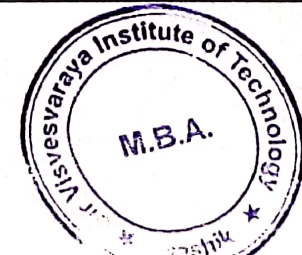
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DR. BALASAHEB VIKHE PATIL
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PRAVARA TECHNICAL EDUCATION CAMPUS NASHIK
NASHIK

GENERIC ELECTIVES UNIVERSITY LEVEL (GE – UL) COURSES – 2 Credits Each									
Any 3 courses to be selected from the following list in Semester I									
ROLL NO	NAME OF STUDENT	Management Fundamentals 107	Indian Economy 108	Entrepreneurship Development 109	Essentials of Psychology for Managers 110	Legal Aspects of Business 111	Demand Analysis & Forecasting 112	SEM MBA-I SEM-I	SIGN
1	ASWARE AKSHAY RAJENDRA	✓	—	✓	—	✓	—		Aswar
2	AVHAD AARTI SOMNATH	✓	—	✓	—	✓	—		Avhad AS
3	AVHAD BHAGWAN CHANDRABHAN	✓	—	✓	—	✓	—		Avhad Bze
4	AVHAD KIRAN DIPAK	✓	—	✓	—	✓	—		Avhad Ko
5	BHAGAT VAISHNAVI KIRAN	✓	✓	✓	—	✓	—		Bhagat Kiran
6	BHALERAO SMITA BALASAHEB	✓	—	✓	—	✓	—		Bhalerao Smita
7	BODAKE SAKSHI SIDDHARTH	✓	—	✓	—	✓	—		Bodake Sakshi
8	BODAKE VIKAS GANPAT	✓	—	✓	—	✓	—		Bodake Vikas
9	BODKE KAVERI DNYANESHWAR	✓	—	✓	—	✓	—		Bodke Kaveri
10	DANGE AMOL NABAJI	✓	—	✓	—	✓	—		Dange Amol
11	DHONGADE ADITYA VINOD	✓	—	✓	—	✓	—		Dhonde Aditya
12	DIXIT ADITYA PURUSHOTTAM	✓	—	✓	—	✓	—		Dixit Aditya


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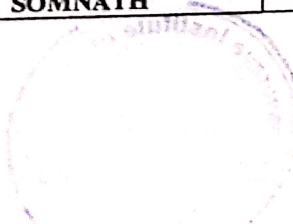


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13	GAIDHANI OM DILIP	✓		✓		✓			Gaidhani
14	GAIKWAD ISHWARI NITIN	✓		✓		✓			Gaikwad
15	GAYAKWAD DNYANESHWAR DILIP	✓		✓		✓			Gayakwad
16	GHODERAO PRATIKSHA CHANDRAKANT	✓	✓	✓		✓	✓		Ghoderao
17	GITE SAMADHAN ARJUN	✓		✓		✓			Gite
18	HARDIK SHARAD ADHANGALE	✓		✓		✓			Adhangale
19	JADHAV SANTOSH RAJESH	✓		✓		✓			Jadav
20	JOSHI KAUSTUBH KISHOR	✓		✓		✓			Joshi
21	KANDARE KHUSHAL RAVINDRA	✓		✓		✓			Kandare
22	KARPE KIRTI KAILAS	✓		✓	✓				Karpe Kirti
23	KATKADE PRATIK UTTAM	✓		✓		✓			Katkar
24	KEKAN TEJAL BALU	✓		✓					
25	KEKANE KRUSHNA ASHOK	✓		✓		✓			Kekane
26	MALI AMOL GANPAT	✓		✓		✓			Mali Amol
27	MANOJ ASHOK GHUMARE	✓		✓		✓			Manoj
28	MUTHAL KISHOR SOMNATH	✓		✓		✓			Muthal



not
date

MBA



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29	OMKAR NAMDEV ADHAV	✓	✓	✓					Adhav
30	PALVE PRAJAKTA DATTU	✓		✓		✓			Palve
31	PAWAR PRATHMESH AMBADAS	✓		✓		✓			Pawar PA
32	RAKH EKTA KAILAS	✓		✓		✓			Ram
33	SAHANE RUSHIKESH BHAUSAHEB	✓		✓		✓			Sahane
34	SAMRUT KRUSHNA SHIVAJI	✓		✓		✓			Samrut
35	SANAP DNYANESHWARI VISHNU	✓		✓		✓			Sanap
36	SANKET NILESH SALI	✓		✓		✓			Sanket
37	SATBHAI YASH ASHOK	✓		✓		✓			Satbhai
38	SHAIKH MADIHA YASIN	✓		✓		✓			Shaikh
39	SHALMAL SANDEEP LANDE	✓		✓		✓			Shalmal
40	SHEJWAL SHUBHAM SHIVAJI	✓		✓		✓			Shejwal
41	SHINDE AKANKSHA SUNIL	✓		✓		✓			Shinde
42	SHINDE SHIVAM MADHUKAR	✓		✓		✓			Shinde S.

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43	SHINDE ASHUTOSH RAMKRUSHNA	✓		✓		✓			Shinde
44	SHIRSATH KAVERI DEEPAK	✓		✓		✓			Shirsath.
45	SONAWANE PRATHAMESH SUDHAKAR	✓		✓		✓			Sonawane
46	SONAWANE TUSHAR SHIVAJI	✓		✓	✓				Stam
47	TEJAS NAMDEV SANGALE	✓		✓		✓			Tejash J.
49	UGALE ABHISHEK SAMPAT	✓		✓		✓			Ugale Ab.
50	UGALE ROHINI BHAUSAHEB	✓		✓	✓				Ugale Rohi
51	WAGH KRUSHNA BALU	✓		✓	✓				Wagh Kr.
52									
53									