


Corrigendum

The corrections related to the courses/subjects of **M.Tech., in Digital Communication and Networking** program is mentioned below;

Existing in the uploaded Scheme and Syllabus		To Be Read as	
In Scheme	In Syllabus	In Scheme	In Syllabus
22LDN14 Advanced Communication Networks	22LDN14 Advanced Communication Networks	22LDN13 Advanced Communication Networks	22LDN13 Advanced Communication Networks
22LDN13-Wireless Communication	22LDN13-Wireless Communication	22LDN14-Wireless Communication	22LDN14-Wireless Communication

All the stakeholders are informed to make a note of the above correction


25/5/2024.
SPECIAL OFFICER


27/05/24
REGISTRAR

Corrigendum:

Existing in the uploaded Scheme and Syllabus		To Be Read as	
In Scheme	In Syllabus	In Scheme	In Syllabus
22LDN14 Advanced Communication Networks	22LDN14 Advanced Communication Networks	22LDN13 Advanced Communication Networks	22LDN13 Advanced Communication Networks
22LDN13 Wireless Communication	22LDN13 Wireless Communication	22LDN14 Wireless Communication	22LDN14 Wireless Communication

All the stakeholders are making a note of the **CORRIGENDUM**

change

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20.06.2023

28/02/2023/va

VISHVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI														
Scheme of Teaching and Examinations – 2022														
M.Tech in Digital Communication and Networking (LDN)														
Choice Based Credit System (CBCS) and Outcome-Based Education(OBE)														
I SEMESTER														
Sl. No	Course	Course Code	Course Title	Teaching Hours per Week				Examination				Credits		
				Theory	Practical/Seminar	Tutorial/Skill Development	Duration in hours	CIE Marks	SEE Marks	Total Marks				
				L	P	T/SDA								
1	BSC	22XXX11	Advanced Engineering mathematics	03	00	00	03	50	50	100	3			
2	IPCC	22LDN12	Advanced Digital Signal Processing	03	02	00	03	50	50	100	4			
3	PCC	22LDN13	Advanced Communication Networks	03	00	02	03	50	50	100	4			
4	PCC	22LDN14	Wireless Communication	02	00	02	03	50	50	100	3			
5	PCC	22LDN15	Advanced Embedded system	02	00	02	03	50	50	100	3			
6	MCC	22RN11G	Research Methodology and IPR	03	00	00	03	50	50	100	3			
7	PCCL	22LDN17	Communication Networks Laboratory	01	02	00	03	50	50	100	2			
8	AUD/A EC	22AUD18/ 22AEC18	BOS recommended ONLINE courses	Classes and evaluation procedures are as per the policy of the online course providers				17	04	06	21	350	700	22
TOTAL				17	04	06	21	350	350	700	22			

Note: BSC-Basic Science Courses, PCC: Professional core, IPCC-Integrated Professional Core Courses, MCC- Mandatory Credit Course, AUD/AEC –Audit Course / Ability Enhancement Course(A pass in AUD/AEC is mandatory for the award of the degree), PCC-Professional Core Course lab, L-Lecture, P-Practical, T/SDA-Tutorial / Skill Development Activities(Hours are for interaction between faculty and students)

25/7/2023
LUNAR

Professional Elective 1		Professional Elective 2	
Course Code under 22LDN23X	Course title	Course Code under 22LDN24X	Course title
22LDN231	Wireless Sensor Networks	22LDN241	Multimedia Over Communication Links
22LDN232	Nanoelectronics	22LDN242	Statistical Signal Processing
22LDN233	Cryptography and Network Security	22LDN243	High speed Communication Networks
22LDN234	Optical Communication and Networking	22LDN244	Applied Cyber Security
22LDN235	Probability and Random Process	22LDN245	Simulation, Modelling and Analysis

Handwritten notes:
 22LDN231 ✓
 22LDN232 ✓
 22LDN233 ✓
 22LDN234 ✓
 22LDN235 ✓
 22LDN241 ✓
 22LDN242 ✓
 22LDN243 ✓
 22LDN244 ✓
 22LDN245 ✓

Note:

- 1. Mini Project with Seminar:** This may be hands-on practice, survey report, data collection and analysis, coding, mobile app development, field visit and report preparation, modelling of system, simulation, analysing and authenticating, case studies, etc. CIE marks shall be awarded by a committee comprising of HoD as Chairman, Guide/co-guide, if any, and a senior faculty of the department. Students can present the seminar based on the completed mini-project. Participation in the seminar by all postgraduate students of the program shall be mandatory. The CIE marks awarded for Mini-Project work and Seminar, shall be based on the evaluation of Mini Project work and Report, Presentation skill and performance in Question and Answer session in the ratio 50:25:25. Mini-Project with Seminar shall be considered as a head of passing and shall be considered for vertical progression as well as for the award of degree. Those, who do not take-up/complete the Mini Project and Seminar shall be declared as fail in that course and have to complete the same during the subsequent semester. There is no SEE for this course.
- 2. Internship:** All the students shall have to undergo a mandatory Internship of 06 weeks during the vacation of II and III semesters. A University examination shall be conducted during III semester and the prescribed internship credit shall be counted in the same semester. The internship shall be considered as a head of passing and shall be considered for vertical progression as well as for the award of degree. Those, who do not take-up/complete the internship shall be declared as fail in the internship course and have to complete the same during the subsequent University examination after satisfying the internship requirements.

Final

25/5/22
Rajesh

Professional elective 3		Professional elective 4	
Course Code under	Course title	Course Code under	Course title
22LDN321	Cognitive Radio Networks	22LDN331	Real Time Systems
22LDN322	WDM Optical Networks	22LDN332	RF MEMS
22LDN323	Pattern Recognition and Machine Learning	22LDN333	RF and Microwave Circuit Design
22LDN324	Communication System Design using DSP Algorithm	22LDN334	Internet of Things
22LDN325	Error Control Coding	22LDN335	Introduction to 5G (NR)

Note:

1. Project Work Phase-1:The project work shall be carried out individually. However, in case a disciplinary or interdisciplinary project requires more participants, then a group consisting of not more than three shall be permitted. Students in consultation with the guide/co-guide (if any) in disciplinary project or guides/co-guides (if any) of all departments in case of multidisciplinary projects, shall pursue a literature survey and complete the preliminary requirements of the selected Project work. Each student shall prepare a relevant introductory project document, and present a seminar. CIE marks shall be awarded by a committee comprising of HoD as Chairman, all Guide/s and co-guide/s (if any) and a senior faculty of the concerned departments. The CIE marks awarded for project work phase -1, shall be based on the evaluation of Project Report, Project Presentation skill, and performance in the Question and Answer session in the ratio of 50:25:25.

2. Societal Project: Students in consultation with the internal guide as well as with external guide (much preferable) shall involve in applying technology to workout/proposing viable solutions for societal problems. CIE marks shall be awarded by a committee comprising of HoD as Chairman, Guide/co-guide if any, and a senior faculty of the department. The CIE marks awarded, shall be based on the evaluation of Project Report, Project Presentation skill, and performance in the Question and Answer session in the ratio of 50:25:25.

Those, who have not pursued /completed the Societal Project, shall be declared as fail in the course and have to complete the same work.

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2022-23

✓	BLDEA's College of Engineering & Tech	4	Digital Communication & Networking	8277368634
✓	KLS Gogte Institute of Tech., Belagavi	4	Digital Communication & Networking	9611606975
✓	RYM Engineering College, Ballari	4	Digital Communication & Networking	9442055265, 944884
✓	Navodaya Institute of Tech., Raichur	1	Digital Communication & Networking	9880124369
✓	Bheemanna Khandre Inst. of Tech., Bhalk	2	Digital Communication & Networking	9409277178
✓	Guru Nanak Dev Engineering College, Bi	2	Digital Communication & Networking	9442754514, 974189283
✓	G S S Inst of Engg & Tech. Women, My	2	Digital Communication & Networking	9844406214
✗	UBDT Engineering College, Davanagere	5	Digital Communication & Networking	
✓	S J C Institute of Technology, Chikkaballa	5	Digital Communication & Networking	9731792555

Dayanand Sagar - 9890064649 - B.C. Prasad

VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI



08/09/2022/11/11

VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI
Scheme of Teaching and Examinations – 2022
M.Tech in Digital Communication and Networking (LDN)
Choice Based Credit System (CBCS) and Outcome-Based Education(OBE)

Sl. No	Course	Course Code	Course Title	Teaching Hours per Week				Examination				Credits	
				Theory	Practical/Seminar	Tutorial/Skill Development	Activities	Duration in hours	CIE Marks	SEE Marks	Total Marks		
1	BSC	22BXX11	Advanced Engineering mathematics	03	00	00	00	03	03	50	50	100	3
2	PCC	22L.DN.12	Advanced Digital Signal Processing	03	02	00	00	03	03	50	50	100	4
3	PCC	22L.DN.13	Wireless Communication	03	00	02	00	03	03	50	50	100	4
4	PCC	22L.DN.14	Advanced Communication Networks	02	00	02	00	03	03	50	50	100	3
5	PCC	22L.DN.15	Advanced Embedded system	02	00	02	00	03	03	50	50	100	3
6	MCC	22RM116	Research Methodology and PR	03	00	00	00	03	03	50	50	100	3
7	PCC	22L.DN.17	Communication Networks laboratory	01	02	00	00	03	03	50	50	100	3
8	AUD/AFC	22A/J18/22AEC18	BOB recommended ON-LINE courses	Classes and evaluation procedures are as per the policy of the online course providers.								20	
TOTAL				17	04	06	06	21	350	350	700	22	

Note: BSC Basic Science Course, PCC Professional Core Courses, MCC Mandatory Credit Course, AUD/AEC – Audit Course / Ability Enhancement Course(A pass in AUD/AEC is mandatory for the award of the degree), PCC-Professional Core Course/lab, e-Lecture, P-Practical, T/SDA-Tutorial / Skill Development Activities(Hours, etc for interaction between faculty and students)

Scheme of Teaching and Examinations and Syllabus
M.Tech in Digital Communication and Networking (LDN)
(Effective from the Academic year 2022-23)

Registrar,
Visvesvaraya Technological University
Jnanasangam, Machhe, Belagavi-590018
eMail: registrar@vtu.ac.in
contact: 0831-2498112

BOS recommended ONLINE COURSES

Sl. No.	Course code	Course Title	National Coordinator	Instructor
1		Design Thinking - A Primer (4 Weeks)	NPTEL	Prof. Ashwin Mahalingam, Prof. Bal Ramadurai IIT Madras
2		Computer Networks and Internet Protocol (12 Weeks)	NPTEL	Prof. Soumya Kantu Ghosh & Prof. Sanjiv Chakraborty IITKGP
3		Advanced IoT Applications (8 Weeks)	NPTEL	Prof. TV Prabhakar IISc
4	22AUC28/ 22AEC18	Spread Spectrum Communications and Jamming (12 Weeks)	NPTEL	Prof. Debarati Sen IITKGP
5		Optical Wireless Communications for Beyond 5G Networks and IoT (12 Weeks)	NPTEL	Prof. Anand Srivastava IITD
6		Employment Communication A 13b based course (8 Weeks)	NPTEL	Prof. Seema Singh IIT KGP
7		Embedded System Design with ARM (8 Weeks)	NPTEL	Prof. Indrani Sengupta and Kanak Chatterjee IITKGP

Integrated Professional Core Course (IPCC): Integrated Professional Core Course (IPCC): Refers to Professional Theory Core Course integrated with practical of the same course. The theory part of the IPCC shall be evaluated both by CIE and SEE. The practical part shall be evaluated by only CIE (no SEE). However, questions from the practical part of IPCC shall be included in the SEE question paper.

Audit Courses /Ability Enhancement Courses Suggested by BOS (ONLINE courses): Audit Courses: These are prerequisite courses suggested by the concerned Board of Studies. Ability Enhancement Courses will be suggested by the BOS if prerequisite courses are not required for the programs. Ability Enhancement Courses.

- These courses are prescribed to help students to enhance their skills in fields connected to the field of specialisation as well allied fields that leads employable skills, involving in learning such courses are impetus to lifelong learning.
- The courses under this category are online courses published in advance and approved by the concerned Board of Studies.
- Registration to Audit /Ability Enhancement Course shall be done in consultation with the mentor who is compulsory during the concerned semester.
- In case a candidate fails to appear for the proctored examination or fails to pass the selected online course, he/she can register and appear for the same course if offered during the next session or register for a new course offered during that session, in consultation with the mentor.
- The Audit Ability Enhancement Course carries no credit and is not counted for vertical progression. However, a pass in such a course is mandatory for the award of the degree.

Skill development activities: Under Skill development activities in a concerning course, the students should

1. interact with industry (small, medium, and large).
2. involve in research/testing/projects to understand the problems and their creative and innovative methods to solve the problem.
3. involve in case studies and field visits/fieldwork.
4. Accustom to the use of standards/codes etc., to narrow the gap between academic and industry.
5. handle advanced instruments to enhance technical talent.
6. Gain confidence in modelling of systems and algorithms for transient and steady state operations, thermal study, etc.
7. Work on different software's (tools) to simulate, analyze and authenticate the output to interpret and conclude.

A. activities include enhance student's abilities to employment, and/or self-employment opportunities, management skills, statistical analysis, fiscal expertise, etc.

Students and the course instructor/s to involve either individually or in groups to interact together to enhance the learning and application skills or the study they have undertaken. The students with the help of the course teacher can take up relevant technical activities which will enhance their skill. The prepared report will be evaluated for OE marks.

VJSS VARAHA TECHNOLOGICAL UNIVERSITY, BELAGAVI														
Scheme of Teaching and Examinations - 2022														
M.Tech in Digital Communication and Networking (LDN)														
Choice Based Credit System (CBCS) and Outcome Based Education (OBE)														
II SEMESTER														
Sl. No	Course	Course Code	Course Title	Teaching Hours / Week				Examination			Credits			
				Theory	Practical/ Seminar	Tutorial/ Skill Development	Duration in hours	CIE Marks	Duration in hours	Total Marks				
1	PCC	22LDN21	Advanced Communication Systems	02	00	02	03	50	50	100	3			
2	IPCC	22LDN22	Antenna Theory And Design	03	02	00	03	50	50	100	4			
3	PEC	22LDN23x	Professional Elective 1	02	00	02	03	50	50	100	3			
4	PEC	22LDN24x	Professional Elective 2	02	00	02	03	50	50	100	3			
5	MPS	22LDN25	Mini Project with Seminar	00	04	02	--	100	--	100	3			
5	PCCL	22LDN26	Advanced Communication Laboratory	01	02	00	03	50	50	100	02			
7	AUD/ AEC	22LDN27	Subjective Evaluation	Assess and evaluate procedures as per the capability of the online course providers.				10	08	08	350	250	600	18
TOTAL				10	08	08	15	350	250	600	18			

Note: PCC - Professional Core Courses, PEC - Professional Elective Courses, PCCL - Integrated Professional Core Courses, MPS - Mini Project with Seminar, AUD/AEC - Audit Courses / Ability Enhancement Courses, Vandatory, PCC - Professional Core Course Lab, Lecture, P-Practical, T/S/DA-Tutorial / Skill Development Activities (hours are for interaction between faculty and students)

Professional Elective 1			Professional Elective 2		
Course Code under 22LDN23X	Course title	Course Code under 22LDN24X	Course title	Course Code under 22LDN241	Course title
22LDN231	Wireless Sensor Networks	22LDN241	Multimed a Over Communication Links	22LDN242	Statistical Signal Processing
22LDN232	Nanoelectronics	22LDN242	High speed Communication Networks	22LDN243	Applied Cyber Security
22LDN233	Cryptography and Network Security	22LDN243	Simulation, Modelling and Analysis	22LDN244	
22LDN234	Optical Communication and Networking	22LDN244		22LDN245	
22LDN235	Probability and Random Process	22LDN245			

Note:

1. Mini Project with Seminar: This may be hands-on practice, survey report, data collection and analysis, coding, mobile app development, field visit and report preparation, modelling of system, simulation, analysing and authenticating, case studies, etc. CIE marks shall be awarded by a committee comprising of HoD as Chairman, Guide/co-guide, if any, and a senior faculty of the department. Students can present the seminar based on the completed mini-project. Participation in the seminar by all postgraduate students of the program shall be mandatory.
2. The CIE marks awarded for Mini-Project work and Seminar, shall be based on the evaluation of Mini-Project work and Report, presentation skill and performance in Question and Answer session in the ratio 50:25:25. Mini-Project with Seminar shall be considered as a head of passing and shall be considered for vertical progression as well as for the award of degree. Those who do not take up/complete the Mini-Project and Seminar shall be declared as fail in that course and have to complete the same during the subsequent semester. There is no SEE for this course.
3. Internship: All the students shall have to undergo a mandatory internship of 06 weeks during the vacation of II and III semesters. A university examination shall be conducted during III semester and the prescribed internship credit shall be counted in the same semester. The internship shall be considered as a head of passing and shall be considered for vertical progression as well as for the award of degree. Those who do not take up/complete the internship shall be declared as fail in the internship course and have to complete the same during the subsequent University examination after satisfying the internship requirements.

Suggested ONLINE courses

Sl.No.	Course code	Course Title	National Coordinator	Instructor
1		Introduction to Internet Of Things (12 Weeks)	NPTL	Prof. Sudha Misra IIT Kharagpur
2		Basics of Software defined Radios (4 Weeks)	NPTL	Prof. Meenakshi Rawat IIT Roorkee
3		Principles of Signal Estimation for MIMO/OFDM Wireless Communication (12 Weeks)	NPTL	Prof. Aditya K. Jagannathan IIT Kanpur
4		Programming in Java (12 Weeks)	NPTL	Prof. Debasis Samanta IIT Kharagpur
5	22AUD27	Fiber Optic Communication Technology (12 Weeks)	NPTL	Prof. Deepa Venkitesh IIT Madras
6		Introduction to Wireless and Cellular Communications (12 Weeks)	NPTL	Prof. R. David Koilbila IIT Madras
7		Introduction to Computer and Network Performance Analysis using Queuing Systems (6 Weeks)	NPTL	Prof. Varsha Apte IIT Bombay
8		LaTeX & X ^Y -typesetting software (06 Weeks)	AICTE	Prof. Kannan Vaidyanathan Principal Investigator of Special Tutorial Project Indian Institute of Technology Bombay

VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI
Scheme of Teaching and Examinations – 2020 - 21
M.Tech in Digital Communication and Networking (LDN)
Choice Based Credit System (CBCS) and Outcome Based Education (OBE)

Sl. No	Course	Course Code	Course Title	Teaching Hours /Week					Examination				Credits	
				Theory	Practical/Mini-Project/Internship	Tutorial/Skill Development	Duration in hours	CIE Marks	SCE Marks	Total Marks				
				L	P	SDA								
1	PCC	22LDN31	LTE 4G Broadband	03	00	02	03	50	50	100	4			
2	PEC	22LDN32X	Professional Objective 3	03	00	00	03	50	50	100	3			
3	OEC	22LDN33X	Professional Objective 4	03	00	00	03	50	50	100	3			
4	PROJ	22LDN34	Project Work phase 1	03	06	00	03	100	100	200	3			
5	SP	22LDN35	Societal Project	00	06	00	03	100	100	200	3			
6	INT	22LDN36	Internship	06 weeks Internship Completed during the semester on of II			03	50	50	100	6			
TOTAL				09	12	03	12	400	200	600	22			

Note: PCC- Professional core courses, PEC- Professional Elective Courses, PCE- Negative Professional Core Courses, MPS-Mini Project With Seminar, AUD/AEC- Audit Courses / Ability Enhancement Courses (Mandatory), OEC- Professional Core Course Lab, I-Lecture, P-Practical, T/SDA- Tutorial / Skill Development Activities/Hours are for the student however faculty and students

Professional elective 3		Professional elective 4	
Course Code under	Course title	Course Code under	Course title
22LDN321	Cognitive Radio Networks	22LDN33X	Real Time Systems
22LDN322	WDM Optical Networks	22LDN331	RF MEMS
22LDN323	Pattern Recognition and Machine Learning	22LDN332	RF and Microwave Circuit Design
22LDN324	Communication System Design using DSP Algorithms	22LDN333	
22LDN325	Error Control Coding	22LDN334	Internet of Things
		22LDN335	Introduction to 5G (NR)

Note:

1. Project Work Phase-1: The project work shall be carried out individually. However, in case a disciplinary or interdisciplinary project requires more participants, then a group consisting of not more than three shall be permitted. Students in consultation with the guide/co-guide (if any) of disciplinary project or guides/co-guides (if any) of all departments in case of multidisciplinary projects, shall pursue a literature survey and complete the preliminary requirements of the selected Project work. Each student shall prepare a relevant introductory project document, and present a seminar. CIE marks shall be awarded by a committee comprising of HoD as Chairman, Guide/co-guide/s (if any) and a senior faculty of the concerned departments. The CIE marks awarded for project work phase-1, shall be based on the evaluation of Project Report, Project Presentation skill and performance in the Question and Answer session in the ratio of 50:25:25.
2. Societal Project: Students in consultation with the internal guide as well as with external guide (much preferable), shall involve in applying technology to work-out/proposing viable solutions for societal problems. CIE marks shall be awarded by a committee comprising of HoD as Chairman, Guide/co guide if any, and a senior faculty of the department. The CIE marks awarded, shall be based on the evaluation of Project Report, Project Presentation skill and performance in the Question and Answer session in the ratio of 50:25:25.

during subsequent semester/s after satisfying the Societal Project requirements. There is no SEE (University examination) for this course.

3. Internship: Those, who have not pursued/completed the internship, shall be declared as fail in the internship course and have to complete the same during subsequent University examinations after satisfying the internship requirements. Internship SEE (University examination) shall be as per the University norms.
- CIE marks shall be awarded by a committee comprising of HoD as Chairman, Guide/co-guide if any, and a senior faculty of the department. The CIE marks awarded for project work phase-1, shall be based on the evaluation of Project Report, Project Presentation skill, and performance in the Question and Answer session in the ratio of 50:25:25.

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VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI
 Scheme of Teaching and Examinations – 2020 - 21
 M.Tech in Digital Communication and Networking (LDN)
 Choice Based Credit System (CBCS) and Outcome Based Education(OBE)

Sl. No	Course	Course Code	Course Title	Teaching Hours /Week			Examination				Credits
				Theory	Practical/ Field work	Duration in hours	CIE Marks	SEE Marks Viva	Total Marks		
1	Project	ZZIDN41	Project work phase 2	L --	P 08	03	100	100	200	200	18
TOTAL				--	08	03	100	100	200	200	18

Note:
 1. Project Work Phase-2:
 Students in consultation with the guide/co-guide (if any) in disciplinary project or guides/co-guides (if any) of all departments in case of multidisciplinary projects, shall continue to work on Project Work phase -1 to complete the Project work. Each student / batch of students shall prepare project document, and present a seminar.
 CIE marks shall be awarded by a committee comprising of HOD as Chairman, all Guides and co guides (if any) and a senior faculty of the concerned departments. The CIE marks awarded for project work phase-2, shall be based on the evaluation of Project Report, Project Presentation skill, and performance in the Quiz on the Answer session in the ratio of 50:25:25.
 SEE shall be at the end of IV semester. Project work evaluation and Viva-Voce examination (SEE), after satisfying the plagiarism check, shall be as per the university norms.
 Total Credits 22+18+22+18 = 80