School of Electronics, Devi Ahilya University, Indore
Integrated (Dual Degree) M. Tech. in Electronics (Spl: Embedded Systems) Batch: 2021-26)
<u>Scheme</u>

Note: The Scheme/Syllabus of the programme/courses as detailed below, can be modified/updated keeping pace with technological advancement, feedback from industry etc, from time to time in accordance with University Ordinance No. 14.

First Semester:

Code	Title	Credits (L T P)
CORE COURSES		
EL7D1101	Mechanical Physics	4 (3-1-0)
EL7D1102	Mathematics I: Differential Calculus & Equations, Trigonometery, Algebra	4 (3-1-0)
EL7D1201	Physics Laboratory	2 (0-0-2)
ABILITY ENHANCEMENT COURSE		
EL7D1105	English Language (Spoken)	4 (3-1-0)
ELECTIVE COURSES-DISCIPLINE CENTRIC		
EL7D1103	Computer Programming in C	4 (3-1-0)
EL7D1203	C Programming Lab	2 (0-0-2)
Comprehensive Viva-Voce		
	Comprehensive Viva-Voce	4
VALUE ADDED (ADD-ON COURSE): It is an additional course. Its credits shall not be counted in calculating SGPA/ CGPA.		
	Students can opt for MOOC Courses as per their interest	
TOTAL CREDITS		**24**

Second Semester:

Code	Title	Credits (L T P)
CORE COURSES		
EL7D2101	Semiconductor Device Physics & Applications	4 (3-1-0)
EL7D2102	Mathematics II: Computational thinking, Numeric Analysis, Modelling	4 (3-1-0)
EL7D2201	Electronics Laboratory	**2** (0-0-2)
ABILITY ENHANCEMENT COURSE		
EL7D2401	Communication English and Technical writing	4 (3-1-0)
ELECTIVE COURSES-DISCIPLINE CENTRIC		
EL7D2103	Data Structure	4 (3-1-0)
EL7D2203	Data Structure Lab	**2** (0-0-2)
Comprehensive Viva-Voce		
	Comprehensive Viva-Voce	4
VALUE ADDED (ADD-ON COURSE): It is an additional course. Its credits shall not be counted in calculating SGPA/ CGPA.		
	Students can opt for MOOC Courses as per their interest	
TOTAL CREDITS		**24**

Third Semester:

Code	Title	Credits (L T P)
CORE COURSES		
EL7D3103	Analog Electronics	4 (3-1-0)
EL7D3104	Signal & System	4 (3-1-0)
EL7D3203	Analog Electronics Laboratory	**2** (0-0-2)
ABILITY ENHANCEMENT COURSE		
EL7D3105	AUTOCAD	4 (2-0-2)
ELECTIVE COURSES-DISCIPLINE CENTRIC		
EL7D3101	Applied Math- III	4 (3-1-0)
EL7D3102	Applied Physics-III	4 (3-1-0)
ELECTIVE GENERIC: The students can choose following course or any other UG level generic course being run in this campus.		
	NIL	
Comprehensive Viva-Voce		
	Comprehensive Viva-Voce	4
VALUE ADDED (ADD-ON COURSE): It is an additional course. Its credits shall not be counted in calculating SGPA/ CGPA.		
	Students can opt for MOOC Courses as per their interest	
TOTAL CREDITS		**26**

Fourth Semester:

Code	Title	Credits (L T P)
CORE COURSES		
EL7D4101	Digital Electronics	4 (3-1-0)
EL7D4102	Control System	4 (3-1-0)
EL7D4201	Digital Electronics Lab	**2** (0-0-2)
ABILITY ENHANCEMENT COURSE		
EL7D4105	Matlab Programming	4 (2-0-2)
ELECTIVE COURSES-DISCIPLINE CENTRIC		
EL7D4103	Probability & Statistics	4 (3-1-0)
ELECTIVE GENERIC: The students can choose following course or any other UG level generic course being run in this campus.		
EL7D4104	Engineering Economics	4 (3-1-0)
Comprehensive Viva-Voce		
	Comprehensive Viva-Voce	4
VALUE ADDED (ADD-ON COURSE): It is an additional course. Its credits shall not be counted in calculating SGPA/ CGPA.		
	Students can opt for MOOC Courses as per their interest	
TOTAL CREDITS		**26**

Fifth Semester:

Code	Title	Credits (L T P)
CORE COURSES		
EL7D5101	Computer Architecture & Organization	4 (3-1-0)
EL7D5102	Microprocessors	4 (3-1-0)
EL7D5103	Analog Communication	4 (3-1-0)
EL7D5202	Microprocessors Lab	**2** (0-0-2)
EL7D5203	Analog Communication Lab	**2** (0-0-2)
ABILITY ENHANCEMENT COURSE		
EL7D5104	Computer Programming (Python)	4 (2-0-2)
ELECTIVE COURSES-DISCIPLINE CENTRIC		
EL7D5105	Elective 1	3 (3-0-0)
ELECTIVE GENERIC: The students can choose following course or any other UG level generic course being run in this campus.		
	NIL	
Comprehensive Viva-Voce		
	Comprehensive Viva-Voce	4
VALUE ADDED (ADD-ON COURSE): It is an additional course. Its credits shall not be counted in calculating SGPA/ CGPA.		
	Students can opt for MOOC Courses as per their interest	
TOTAL CREDITS		**27**

Sixth Semester:

Code	Title	Credits (L T P)
CORE COURSES		
EL7D6101	Introduction to Embedded Systems	4 (3-1-0)
EL7D6102	Digital Communication	4 (3-1-0)
EL7D6103	Database Systems & Applications	4 (3-1-0)
EL7D6202	Digital Communication Lab	**2** (0-0-2)
EL7D6203	DBMS Lab	**2** (0-0-2)
ABILITY ENHANCEMENT COURSE		
EL7D6104	Technical English and communication – II	4 (3-1-0)
ELECTIVE COURSES-DISCIPLINE CENTRIC		
EL7D6105	Elective 2	3 (3-0-0)
ELECTIVE GENERIC: The students can choose following course or any other generic course being run in this campus.		
	NIL	
Comprehensive Viva-Voce		
	Comprehensive Viva-Voce	4
VALUE ADDED (ADD-ON COURSE): It is an additional course. Its credits shall not be counted in calculating SGPA/ CGPA.		
	Students can opt for MOOC Courses as per their interest	
TOTAL CREDITS		**27**

Seventh Semester:

Code	Title	Credits (L T P)
CORE COURSES		
EL7D7105	Embedded Microcontrollers	4 (3-1-0)
EL7D7106	Advanced Logic Design using VHDL	4 (3-1-0)
EL7D7104	Digital Signal Processing	4 (3-1-0)
EL7D7205	Embedded Microcontroller Lab	2 (0-0-2)
EL7D7206	Advanced Logic Design Lab	2 (0-0-2)
EL7D7204	Digital Signal Processing Lab	2 (0-0-2)
ABILITY ENHANCEMENT COURSE		
EL7D7102	Linux Scripting and Networking	4 (3-1-0)
EL7D7202	Linux Lab	2 (0-0-2)
ELECTIVE COURSES-DISCIPLINE CENTRIC		
EL7D7103	System Programming	4 (3-1-0)
EL7D7203	System Programming Lab	2 (0-0-2)
ELECTIVE GENERIC: The students can choose following course or any other level generic course being run in this campus.		
	NIL	
Comprehensive Viva-Voce		
	Comprehensive Viva-Voce	4
VALUE ADDED (ADD-ON COURSE): It is an additional course. Its credits shall not be counted in calculating SGPA/ CGPA.		
	Students can opt for MOOC Courses as per their interest	
TOTAL CREDITS		**34**

Eighth Semester:

Code	Title	Credits (L T P)
CORE COURSES		
EL7D8101	VLSI Design Methodologies	4 (3-1-0)
EL7D8103	Advanced Embedded Microcontroller - ARM	4 (3-1-0)
EL7D8201	VLSI Lab	2 (0-0-2)
EL7D8203	Advanced Embedded Microcontroller Lab	2 (0-0-2)
ABILITY ENHANCEMENT COURSE		
EL7D8102	Real Time Systems	4 (3-1-0)
EL7D8202	Real Time Systems Lab	2 (0-0-2)
EL7D8401	Student Seminars	2 (0-0-2)
ELECTIVE COURSES-DISCIPLINE CENTRIC		
EL7D8104	Wireless Computer Networks &IoT	4 (3-1-0)
EL7D8204	Wireless Computer Networks &IoT Lab	2 (0-0-2)
ELECTIVE GENERIC: The students can choose following course or any other level generic course being run in this campus.		
	NIL	
Comprehensive Viva-Voce		

	Comprehensive Viva-Voce	4
VALUE ADDED (ADD-ON COURSE): It is an additional course. Its credits shall not be counted in calculating SGPA/ CGPA.		
	Students can opt for MOOC Courses as per their interest	
	TOTAL CREDITS	**30**

Ninth Semester:

Code	Title	Credits (L T P)
EL7D9401	Major Project Phase – I	12
	TOTAL CREDITS	**12**

Tenth Semester:

Code	Title	Credits (L T P)
EL7D10401	Major Project Phase – II	12
	TOTAL CREDITS	**12**