Sri Ramakrishna Mission Vidyalaya College of Arts and Science
(Autonomous)

DDU KAUSHAL Kendra

B.Voc (Technology in Electrical and Electronic Devices)

For students admitted from the academic year 2020-2021 onwards

PROGRAMME OUTCOMES:

The Department of Technology in Electrical and Electronic Devices provides the practical learning environment for the students which aim to meet out the industrial requirements in the field of Electrical and Electronics by providing more practical exposures and on job trainings.

The program Educational Objectives are as follows:

PO1: Provide graduates with the fundamental knowledge in science and mathematics required to understand the principles of Engineering.

PO2: Develop creative and innovative thinking ability of the students which are required for industry.

PO3: Create a technically skilled employee by imparting theoretical, practical and on job training to students.

PO4: Imparting the leadership qualities required for team work, production planning, decision making and industrial safety, so that they are work ready at exit point of the programme.

PO5: Create well disciplined and responsible citizens for the overall welfare of our nation.

PROGRAMME SPECIFIC OUTCOMES:

PSO1: Ability to apply the knowledge of basic Engineering principles in the field of Electrical and Electronics.

PSO2: Ability to design a system to meet out the desired needs of realistic constraints.

PSO3: Ability to troubleshoot and solve the problems in the area of Electronics.

PSO4: Ability to Coordinate with Multidisciplinary teams, allocate work and manage team to ensure that production deadlines and quality standards of an industry.

PSO5: Ability to use techniques, Skills and modern engineering tools required to develop new product with updated features and improved performance.

Course Tile : Basics of Electrical And Electronic Devices

Course code : 20KUT1C01

Course Outcomes (CO)

CO1	Remembering the fundamentals of Electricity	**K1**
CO2	Understand the construction, characteristics and Application of DC Machines	**K2**
CO3	Understand the construction, characteristics and Application of AC Machines	**K2**
CO4	Understand and analyze the Characteristics and specification of Electronic Devices.	**K2 &K4**
CO5	Understand and analyze the construction and working of basic Electronic circuits.	**K2 &K4**

K1 - Remember; K2 - Understand; K3 - Apply; K4 – Analyze

	PSO1	**PSO2**	**PSO3**	**PSO4**	**PSO5**		**PO1**	**PO2**	**PO3**	**PO4**	**PO5**
CO1	S	S	S	M	M		S	M	S	L	L
CO2	S	S	S	M	M		S	M	S	L	L
CO3	S	S	S	M	M		S	M	S	L	L
CO4	S	S	S	M	M		S	M	S	L	L
CO5	S	S	S	M	M		S	M	S	L	L

S – Strong; M – Medium; L - Low

Course Title : Supervise Assembly Line Activities Course code : 20KUT1C02

Course Outcomes (CO)

CO1	Understand the responsibilities of supervisor.	**K2**
CO2	Understand the skills required for the supervisor.	**K2**
CO3	Apply the Safety Guidelines for Handling Electronic Assemblies and to achieve productivity	**K3**
CO4	Apply safety procedures by understanding the importance of Electrical Safety.	**K3**
CO5	Understand and Analyze the importance of time management.	**K2 &K4**

K1 - Remember; K2 - Understand; K3 - Apply; K4 – Analyze

	PSO1	PSO2	PSO3	PSO4	PSO5		PO1	PO2	PO3	PO4	PO5
CO1	M	L	L	S	M		L	S	M	S	S
CO2	S	M	M	S	S		L	S	S	S	S
CO3	S	M	S	S	S		M	S	M	S	M
CO4	S	M	S	S	S		M	S	M	S	M
CO5	M	M	L	S	S		L	S	L	S	S

S – Strong; M – Medium; L - Low

Course Title : Linear Integrated Circuits **Course code : 20KUT2C03**

Course Outcomes (CO)

CO1	Understand the characteristics of Op-amp IC741	**K2**
CO2	Understand and analyze the applications of IC741	**K2 &K3**
CO3	Understand different types of A to D and D to A converters.	**K2**
CO4	Understand the characteristics and application of timer Ic's	**K2& K3**
CO5	Developing competencies to analyze Linear integrated circuits by understanding the fundamentals of OP-amp and Timer IC's.	**K3 &K4**

K1 - Remember; K2 - Understand; K3 - Apply; K4 – Analyze

	PSO1	PSO2	PSO3	PSO4	PSO5		PO1	PO2	PO3	PO4	PO5
CO1	S	S	M	M	S		S	M	M	L	L
CO2	S	S	M	M	S		S	M	S	L	L
CO3	S	S	M	M	S		S	M	M	L	L
CO4	S	S	M	M	S		S	S	S	L	L
CO5	S	S	S	M	S		S	S	S	L	L

S – Strong; M – Medium; L - Low

Course Title: Electrical And Electronic Devices Lab Course Code : 20KUTE2P1

Course Outcomes (CO)

CO1	Analyze the characteristics of various Electrical machines	**K3 &K4**
CO2	Analyze the characteristics of various Electronic Devices	**K3 &K4**
CO3	Identify and analyze the waveforms of Electronic circuits.	**K3 &K4**
CO4	Analyze linear integrated circuits such as IC 741, and IC 555.	**K3 &K4**

K1 - Remember; K2 - Understand; K3 - Apply; K4 – Analyze

	PSO1	PSO2	PSO3	PSO4	PSO5		PO1	PO2	PO3	PO4	PO5
CO1	S	S	S	L	S		S	M	S	L	L
CO2	S	S	S	L	S		S	M	S	L	L
CO3	S	S	S	L	S		S	M	S	L	L
CO4	S	S	S	L	S		S	M	S	L	L

S – Strong; M – Medium; L - Low

Course code : Internship Training- I **Course code : 20KUTE2I1**

Course Outcomes (CO)

CO1	Exposed to an organization overview.	**K2**
CO2	Get awareness about general safety requirements in the industry.	**K2 &K3**
CO3	Understand and follow the rules and regulations of Industry.	**K2 &K3**
CO4	Handling of Equipments, Tools and instruments used in industry.	**K3**
CO5	Practical exposure to handle abnormal & unusual conditions in industry.	**K3 &K4**

K1 - Remember; K2 - Understand; K3 - Apply; K4 – Analyze

	PSO1	PSO2	PSO3	PSO4	PSO5		PO1	PO2	PO3	PO4	PO5
CO1	S	S	S	S	S		S	S	S	S	S
CO2	S	S	S	S	S		S	S	S	S	S
CO3	S	S	S	S	S		S	S	S	S	S
CO4	S	S	S	S	S		S	S	S	S	S
CO5	S	S	S	S	S		S	S	S	S	S

S – Strong; M – Medium; L – Low

Course Title : Digital Electronics **Course code : 20KUT3C04**

Course Outcomes (CO)

CO1	Understand various types of number systems, binary arithmetic and codes.	**K2**
CO2	Remembering truth table, symbol and equation of various logic gates	**K1**
CO3	Analyze combinational Logic circuits and sequential Logic circuits	**K3**
CO4	Understand the circuit and working of Registers and digital memories.	**K2**
CO5	Developing competencies to design Digital logic circuits by understanding the fundamentals of Logic gates and Flip flops.	**K3 &K4**

K1 - Remember; K2 - Understand; K3 - Apply; K4 – Analyze

	PSO1	**PSO2**	**PSO3**	**PSO4**	**PSO5**		**PO1**	**PO2**	**PO3**	**PO4**	**PO5**
CO1	M	S	M	M	M		S	M	M	L	L
CO2	S	S	S	M	S		S	S	S	M	L
CO3	S	S	S	M	S		S	S	S	M	L
CO4	S	S	S	M	S		S	S	S	M	L
CO5	S	S	S	M	S		S	S	S	M	L

S – Strong; M – Medium; L - Low

Course Title : Production Planning And Control **Course code : 20KUT3C05**

Course Outcomes (CO)

CO1	Understand the objectives of Production and operation managements systems.	**K2**
CO2	Originate a procurement chart based on production plan for future months	**K2 &K3**
CO3	Understand the importance of man power planning.	**K2**
CO4	Understand purchasing management and inventory control	**K2**
CO5	Analyze the production plan based on the product demand data.	**K4**

K1 - Remember; K2 - Understand; K3 - Apply; K4 – Analyze

	PSO1	**PSO2**	**PSO3**	**PSO4**	**PSO5**		**PO1**	**PO2**	**PO3**	**PO4**	**PO5**
CO1	M	S	M	S	S		M	M	S	S	S
CO2	M	S	M	S	S		M	S	S	S	M
CO3	L	M	M	S	S		M	S	S	S	S
CO4	L	M	L	S	S		M	S	M	S	M
CO5	M	M	M	S	S		M	S	S	S	S

S – Strong; M – Medium; L - Low

Course Title : Programmable Logic Controller **Course code : 20KUT4C07**

Course Outcomes (CO)

CO1	Remembering general block diagram and connectivity of PLC	**K1**
CO2	Understand the various Classification PLC programming standards	**K2**
CO3	Understand input, output, timer and counter instructions	**K2**
CO4	Understand the Arithmetic and Logical Instructions	**K2**
CO5	Understand and Write the PLC Ladder logic program for various Applications.	**K2 &K3**

K1 - Remember; K2 - Understand; K3 - Apply; K4 – Analyze

	PSO1	**PSO2**	**PSO3**	**PSO4**	**PSO5**		**PO1**	**PO2**	**PO3**	**PO4**	**PO5**
CO1	S	S	S	L	M		M	S	M	L	L
CO2	S	S	S	L	M		M	S	S	L	L
CO3	S	S	S	L	M		M	S	S	L	L
CO4	S	S	S	L	M		M	S	S	L	L
CO5	S	S	S	L	S		M	S	S	L	L

S – Strong; M – Medium; L - Low

Course Title : Digital Electronics and Programmable logic controller lab
Course code : 20KUTE4P2

Course Outcomes (CO)

CO1	Identify the IC no's, Truth table of logic gates	**K1**
CO2	Analyze the various combinational logic circuits	**K3 &K4**
CO3	Analyze the various sequential logic circuits	**K3 &K4**
CO4	Understand and Write the Ladder Diagram of Programmable Logic Controller	**K2 &K3**

K1 - Remember; K2 - Understand; K3 - Apply; K4 – Analyze

	PSO1	**PSO2**	**PSO3**	**PSO4**	**PSO5**		**PO1**	**PO2**	**PO3**	**PO4**	**PO5**
CO1	S	S	S	L	S		S	S	S	L	L
CO2	S	S	S	L	S		S	S	S	L	L
CO3	S	S	S	L	S		S	S	S	L	L
CO4	S	S	S	L	S		S	S	S	L	L

S – Strong; M – Medium; L - Low

Course Title : Internship Training-II Course code : 20KUTE4I2

Course Outcomes (CO)

CO1	Prepare procurement schedule	**K2 &K3**
CO2	Prepare Production plan	**K2 &K3**
CO3	Gain self confidence and able to co-ordinate with others	**K3 &K4**

K1 - Remember; K2 - Understand; K3 - Apply; K4 – Analyze

	PSO1	**PSO2**	**PSO3**	**PSO4**	**PSO5**		**PO1**	**PO2**	**PO3**	**PO4**	**PO5**
CO1	S	S	S	S	S		S	S	S	S	S
CO2	S	S	S	S	S		S	S	S	S	S
CO3	S	S	S	S	S		S	S	S	S	S

S – Strong; M – Medium; L - Low

Course Title : Microprocessor and Microcontroller Course code : 20KUT5C09

Course Outcomes (CO)

CO1	Understand the architecture, addressing modes and instructions of 8085 Microprocessor.	**K2**
CO2	Understand the architecture, pin diagram of 8051 Microprocessor.	**K2**
CO3	Understand Addressing Modes, Data transfer and Logical instruction of 8051 Microcontroller	**K2**
CO4	Understand Arithmetic and Branching instruction of 8051 Microcontroller	**K2**
CO5	Analyse various interfacing application of 8051 Microcontroller.	**K3 &K4**

K1 - Remember; K2 - Understand; K3 - Apply; K4 – Analyze

	PSO1	**PSO2**	**PSO3**	**PSO4**	**PSO5**		**PO1**	**PO2**	**PO3**	**PO4**	**PO5**
CO1	S	S	S	L	S		S	S	S	L	L
CO2	S	S	S	L	S		S	S	S	L	L
CO3	S	S	S	L	S		S	S	S	L	L
CO4	S	S	S	L	S		S	S	S	L	L
CO5	S	S	S	L	S		S	S	S	L	L

S – Strong; M – Medium; L - Low

Course Title : Develop Hardware Product For Manufacturing
Course code : 20KUT5C10

Course Outcomes (CO)

CO1	Identify Material requirement and selection of supplier	**K1 &K2**
CO2	Understand various planning and work study	**K2**
CO3	Recognize the requirements for developing the hardware product	**K2 &K3**
CO4	Understand the basic troubleshooting procedure in Electronic Equipments	**K2**
CO5	Analyze Quality control and waste management	**K3 &K4**

K1 - Remember; K2 - Understand; K3 - Apply; K4 – Analyze

	PSO1	**PSO2**	**PSO3**	**PSO4**	**PSO5**		**PO1**	**PO2**	**PO3**	**PO4**	**PO5**
CO1	M	M	M	S	M		L	M	M	S	S
CO2	M	M	M	S	M		L	M	M	S	S
CO3	S	S	S	L	S		S	S	S	L	L
CO4	S	S	S	L	S		S	S	S	L	L
CO5	S	M	M	S	S		M	S	S	S	S

S – Strong; M – Medium; L - Low

Course Title : Microprocessor and Microcontroller Lab Course code : 20KUTE6P3

Course Outcomes (CO)

CO1	Able to write an Assembly Language Arithmetic program of 8085 Microprocessor and 8051 Microcontroller.	**K3 &K4**
CO2	Able to write an Assembly Language Interfacing program of 8051 Microcontroller.	**K3 &K4**

K1 - Remember; K2 - Understand; K3 - Apply; K4 – Analyze

	PSO1	**PSO2**	**PSO3**	**PSO4**	**PSO5**		**PO1**	**PO2**	**PO3**	**PO4**	**PO5**
CO1	S	S	S	L	M		S	S	S	L	L
CO2	S	S	S	L	M		S	S	S	L	M

S – Strong; M – Medium; L - Low

Course code : Project **Course code : 20KUTE6PR**

Course Outcomes (CO)

CO1	Develop Electronic Hardware working model suitable for real practical environment.	K3 &K4
CO2	Develop the production plan	K3 &K4

K1 - Remember; K2 - Understand; K3 - Apply; K4 – Analyze

	PSO1	PSO2	PSO3	PSO4	PSO5		PO1	PO2	PO3	PO4	PO5
CO1	S	S	S	S	S		S	S	S	S	S
CO2	S	S	S	S	S		S	S	S	S	S

S – Strong; M – Medium; L - Low

Course Title : INTERNSHIP TRAINING-III **Course code : 20KUTE6I3**

Course Outcomes (CO)

CO1	Gain practical knowledge along with work experience in addition to their academic credits	K3 &K4
CO2	Develop the skills which are required to get employment or to become an Entrepreneur.	K2 &K3

K1 - Remember; K2 - Understand; K3 - Apply; K4 – Analyze

	PSO1	PSO2	PSO3	PSO4	PSO5		PO1	PO2	PO3	PO4	PO5
CO1	S	S	S	S	S		S	S	S	S	S
CO2	S	S	S	S	S		S	S	S	S	S

S – Strong; M – Medium; L - Low

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