

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI**COURSE PLAN (June - November 2026)**

Department : PHYSICS
Name/s of the Faculty : Dr. BELINA XAVIER and Dr. ANNIE VINOSHA. P
Course Title : EXPERIMENTAL PHYSICS VI
Course Code : 23PH/MC/P652
Shift : I

COURSE OUTCOMES (COs)

COs	Description						CL
CO1	recall and relate the theoretical electronic concepts in designing the circuits.						K1, K2
CO2	apply the theoretical knowledge in troubleshooting and correcting simple electronic circuit errors.						K3
CO3	analyze the component values needed to achieve specific circuit characteristics						K4
CO4	evaluate the effects of various component values on circuit performance.						K5
CO5	develop analytic ability from the technical knowledge gained through hands-on training						K6
Week	Unit No.	Content	Cognitive Level	Teaching Hours	COs	Teaching Learning Methodology	Assessment Methods
Jun 15 – 22, 2026 (Day Order 1- 6)	1 – 9 Each group will	1. Flasher using relay – 555 Timer	1-6	6	1-5	Hands-on teaching	Accuracy of the result

	do one experiment per week as per the given order.	2. Study of Waveforms - Differentiator and Integrator using IC 741. 3. Light to frequency converter – using IC 555 4. Temperature to Voltage converter – using IC 741 5. OP AMP as an Adder, Subtractor, Inverting and Non- Inverting amplifier, Source follower and Multiplier. 6. Half adder and half subtractor using NAND and NOR gates (7400 and 7402) 7. 4 bit Binary adder (7483 and 7486) 8. Microprocessor application – Arithmetic operation (8 bit)- addition, subtraction, multiplication and division. 9. Microprocessor					
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		application- sorting an array in ascending and descending order					
Jun 23 – July 1, 2026 (Day Order 1- 6)	1 – 9 Each group will do one experiment per week as per the given order.	1. Flasher using relay – 555 Timer 2. Study of Waveforms - Differentiator and Integrator using IC 741. 3. Light to frequency converter – using IC 555 4. Temperature to Voltage converter – using IC 741 5. OP AMP as an Adder, Subtractor, Inverting and Non- Inverting amplifier, Source follower and Multiplier. 6. Half adder and half subtractor using NAND and NOR gates (7400 and 7402) 7. 4 bit Binary adder (7483 and 7486) 8. Microprocessor application – Arithmetic	1-6	6	1-5	Hands-on teaching	Accuracy of the result

		operation (8 bit)- addition, subtraction, multiplication and division. 9. Microprocessor application- sorting an array in ascending and descending order					
July 2 – July 8, 2026 (Day Order 1- 6)	1 – 9 Each group will do one experimen t per week as per the given order.	1. Flasher using relay – 555 Timer 2. Study of Waveforms - Differentiator and Integrator using IC 741. 3. Light to frequency converter – using IC 555 4. Temperature to Voltage converter – using IC 741 5. OP AMP as an Adder, Subtractor, Inverting and Non- Inverting amplifier, Source follower and Multiplier. 6. Half adder and half subtractor using NAND	1-6	6	1-5	Hands-on teaching	Accuracy of the result

		and NOR gates (7400 and 7402) 7. 4 bit Binary adder (7483 and 7486) 8. Microprocessor application – Arithmetic operation (8 bit)- addition, subtraction, multiplication and division. 9. Microprocessor application- sorting an array in ascending and descending order					
July 9 – 16, 2026 (Day Order 1- 6)	1 – 9 Each group will do one experiment per week as per the given order.	1. Flasher using relay – 555 Timer 2. Study of Waveforms - Differentiator and Integrator using IC 741. 3. Light to frequency converter – using IC 555 4. Temperature to Voltage converter – using IC 741 5. OP AMP as an Adder,	1-6	6	1-5	Hands-on teaching	Accuracy of the result

		Subtractor, Inverting and Non- Inverting amplifier, Source follower and Multiplier. 6. Half adder and half subtractor using NAND and NOR gates (7400 and 7402) 7. 4 bit Binary adder (7483 and 7486) 8. Microprocessor application – Arithmetic operation (8 bit)- addition, subtraction, multiplication and division. 9. Microprocessor application- sorting an array in ascending and descending order					
July 17 – 24, 2026 (Day Order 1- 6)	1 – 9 Each group will do one experiment per week as per the	1. Flasher using relay – 555 Timer 2. Study of Waveforms - Differentiator and Integrator using IC 741.	1-6	6	1-5	Hands-on teaching	Accuracy of the result

	given order.	3. Light to frequency converter – using IC 555 4. Temperature to Voltage converter – using IC 741 5. OP AMP as an Adder, Subtractor, Inverting and Non- Inverting amplifier, Source follower and Multiplier. 6. Half adder and half subtractor using NAND and NOR gates (7400 and 7402) 7. 4 bit Binary adder (7483 and 7486) 8. Microprocessor application – Arithmetic operation (8 bit)- addition, subtraction, multiplication and division. 9. Microprocessor application- sorting an array in ascending and descending order					
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July 25 – 28, 2026 (Day Order 1- 3)							
July 29 – Aug 3, 2026	C.A. Test - I						
Aug 4 - 6, 2026 (Day Order 4 - 6)	1 – 9 Each group will do one experiment per week as per the given order.	1. Flasher using relay – 555 Timer 2. Study of Waveforms - Differentiator and Integrator using IC 741. 3. Light to frequency converter – using IC 555 4. Temperature to Voltage converter – using IC 741 5. OP AMP as an Adder, Subtractor, Inverting and Non- Inverting amplifier, Source follower and Multiplier. 6. Half adder and half subtractor using NAND and NOR gates (7400 and 7402) 7. 4 bit Binary adder (7483 and 7486)	1-6	6	1-5	Hands-on teaching	Accuracy of the result

		8. Microprocessor application – Arithmetic operation (8 bit)- addition, subtraction, multiplication and division. 9. Microprocessor application- sorting an array in ascending and descending order					
Aug 7 – 14, 2026 (Day Order 1- 6)	1 – 9 Each group will do one experiment per week as per the given order.	1. Flasher using relay – 555 Timer 2. Study of Waveforms - Differentiator and Integrator using IC 741. 3. Light to frequency converter – using IC 555 4. Temperature to Voltage converter – using IC 741 5. OP AMP as an Adder, Subtractor, Inverting and Non- Inverting amplifier, Source follower and Multiplier.	1-6	6	1-5	Hands-on teaching	Accuracy of the result

		6. Half adder and half subtractor using NAND and NOR gates (7400 and 7402) 7. 4 bit Binary adder (7483 and 7486) 8. Microprocessor application – Arithmetic operation (8 bit)- addition, subtraction, multiplication and division. 9. Microprocessor application- sorting an array in ascending and descending order					
Aug 17 - 24, 2026 (Day Order 1- 6)	1 – 9 Each group will do one experiment per week as per the given order.	1. Flasher using relay – 555 Timer 2. Study of Waveforms - Differentiator and Integrator using IC 741. 3. Light to frequency converter – using IC 555 4. Temperature to Voltage converter –	1-6	6	1-5	Hands-on teaching	Accuracy of the result

		using IC 741 5. OP AMP as an Adder, Subtractor, Inverting and Non- Inverting amplifier, Source follower and Multiplier. 6. Half adder and half subtractor using NAND and NOR gates (7400 and 7402) 7. 4 bit Binary adder (7483 and 7486) 8. Microprocessor application – Arithmetic operation (8 bit)- addition, subtraction, multiplication and division. 9. Microprocessor application- sorting an array in ascending and descending order					
Aug 25 – Sep 2, 2026 (Day Order 1- 6)	1 – 9 Each group will do one	1. Flasher using relay – 555 Timer 2. Study of Waveforms -	1-6	6	1-5	Hands-on teaching	Accuracy of the result

	experiment per week as per the given order. Differentiator and Integrator using IC 741. 3. Light to frequency converter – using IC 555 4. Temperature to Voltage converter – using IC 741 5. OP AMP as an Adder, Subtractor, Inverting and Non- Inverting amplifier, Source follower and Multiplier. 6. Half adder and half subtractor using NAND and NOR gates (7400 and 7402) 7. 4 bit Binary adder (7483 and 7486) 8. Microprocessor application – Arithmetic operation (8 bit)- addition, subtraction, multiplication and division. 9. Microprocessor application- sorting an					
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		array in ascending and descending order					
Sep 3 – 11, 2026 (Day Order 1- 6)	1 – 9 Each group will do one experiment per week as per the given order.	1. Flasher using relay – 555 Timer 2. Study of Waveforms - Differentiator and Integrator using IC 741. 3. Light to frequency converter – using IC 555 4. Temperature to Voltage converter – using IC 741 5. OP AMP as an Adder, Subtractor, Inverting and Non- Inverting amplifier, Source follower and Multiplier. 6. Half adder and half subtractor using NAND and NOR gates (7400 and 7402) 7. 4 bit Binary adder (7483 and 7486) 8. Microprocessor application – Arithmetic	1-6	6	1-5	Hands-on teaching	Accuracy of the result

		operation (8 bit)- addition, subtraction, multiplication and division. 9. Microprocessor application- sorting an array in ascending and descending order					
Sep 15-17, 2026 (Day Order 1 - 3)	1 – 9 Each group will do one experimen t per week as per the given order.	1. Flasher using relay – 555 Timer 2. Study of Waveforms - Differentiator and Integrator using IC 741. 3. Light to frequency converter – using IC 555 4. Temperature to Voltage converter – using IC 741 5. OP AMP as an Adder, Subtractor, Inverting and Non- Inverting amplifier, Source follower and Multiplier. 6. Half adder and half subtractor using NAND	1-6	3	1-5	Hands-on teaching	Accuracy of the result

		and NOR gates (7400 and 7402) 7. 4 bit Binary adder (7483 and 7486) 8. Microprocessor application – Arithmetic operation (8 bit)- addition, subtraction, multiplication and division. 9. Microprocessor application- sorting an array in ascending and descending order					
Sep 18 –23, 2026	C.A. Test - II						
Sep 24 - 28, 2026 (Day 4 – 6)	1-9 Repetition and Revision	1. Flasher using relay – 555 Timer 2. Study of Waveforms - Differentiator and Integrator using IC 741. 3. Light to frequency converter – using IC 555 4. Temperature to Voltage converter –	1-6	3	1-5	Hands-on teaching	Accuracy of the result

		using IC 741 5. OP AMP as an Adder, Subtractor, Inverting and Non- Inverting amplifier, Source follower and Multiplier. 6. Half adder and half subtractor using NAND and NOR gates (7400 and 7402) 7. 4 bit Binary adder (7483 and 7486) 8. Microprocessor application – Arithmetic operation (8 bit)- addition, subtraction, multiplication and division. 9. Microprocessor application- sorting an array in ascending and descending order					
Sep 29 – Oct 7, 2026 (Day Order 1 - 6)	1 out of the 9 experiments will be	1. Flasher using relay – 555 Timer 2. Study of Waveforms -	1-6	6	1-5	Model Test I – 50 marks K1 – K6 Level	Aim & Formula Experimental Procedure

	given to each student for the assessment	Differentiator and Integrator using IC 741. 3. Light to frequency converter – using IC 555 4. Temperature to Voltage converter – using IC 741 5. OP AMP as an Adder, Subtractor, Inverting and Non- Inverting amplifier, Source follower and Multiplier. 6. Half adder and half subtractor using NAND and NOR gates (7400 and 7402) 7. 4 bit Binary adder (7483 and 7486) 8. Microprocessor application – Arithmetic operation (8 bit)- addition, subtraction, multiplication and division. 9. Microprocessor application- sorting an					K1, K2 - 20 marks; Observation & Calculation K3, K4 – 20 marks; Results, Accuracy, Error estimation & Interpretation K5, K6 -10 marks
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		array in ascending and descending order					
Oct 8 - 14, 2026 (Day Order 1 - 6)	1 out of the 9 experiments will be given to each student for the assessment	1. Flasher using relay – 555 Timer 2. Study of Waveforms - Differentiator and Integrator using IC 741. 3. Light to frequency converter – using IC 555 4. Temperature to Voltage converter – using IC 741 5. OP AMP as an Adder, Subtractor, Inverting and Non- Inverting amplifier, Source follower and Multiplier. 6. Half adder and half subtractor using NAND and NOR gates (7400 and 7402) 7. 4 bit Binary adder (7483 and 7486) 8. Microprocessor application – Arithmetic	1-6	6	1-5	Model Test II – 50 marks K1 – K6 Level	Aim & Formula Experimental Procedure K1, K2 - 20 marks; Observation & Calculation K3, K4 – 20 marks; Results, Accuracy, Error estimation & Interpretation K5, K6 -10 marks

	operation (8 bit)- addition, subtraction, multiplication and division.						
	9. Microprocessor application- sorting an array in ascending and descending order						
Oct 15 - 21, 2026 (Day Order 1- 4)	REVISION						