



UNIVERSITAS SUMATERA UTARA (USU)
FAKULTAS TEKNIK
DEPARTEMEN TEKNIK ELEKTRO

**Kode
Dokumen**

RENCANA PEMBELAJARAN SEMESTER

MATA KULIAH (MK)	KODE	Rumpun MK	BOBOT (sks)		SEMESTER	Tgl Penyusunan
Rangkaian Listrik 2	TEE1205		Teori 2	Praktikum 1		7 AGUSTUS 2022
OTORISASI / PENGESAHAN	Dosen Pengembang RPS		Koordinator RMK		Ka Prodi	
	Ir. Raja Harahap, MT				Suherman, ST., M.Comp., Ph.D	
Capaian Pembelajaran	CPL-PRODI yang dibebankan pada MK					
	CPL-1	Mampu menerapkan pengetahuan matematika, ilmu pengetahuan alam/atau material, teknologi informasi dan rekayasa untuk mendapatkan pemahaman menyeluruh tentang prinsip-prinsip Teknik Elektro.				
	CPL-2	Mampu mendesain komponen, sistem dan/atau proses untuk memenuhi kebutuhan yang diharapkan oleh masyarakat dengan dihadapkan pada batasan realistik yang meliputi aspek hukum, ekonomi, lingkungan, sosial, politik, kesehatan dan keselamatan, keberlanjutan.				
	CPL-3	Mampu mendesain eksperimen laboratorium dan/atau lapangan serta menganalisis dan mengartikan data untuk memperkuat penilaian teknik khususnya dalam bidang Teknik Elektro.				
	CPL-4	Mampu menyelesaikan permasalahan teknik khususnya dalam bidang Teknik Elektro secara bertanggungjawab dan memenuhi etika profesi.				
	CPL-5	Mampu menerapkan metode, keterampilan dan perangkat teknik modern yang diperlukan untuk praktek profesi Teknik Elektro.				
	CPL-6	Mampu berkomunikasi secara efektif, baik lisan maupun tulisan.				
	CPL-7	Mampu mengevaluasi tugas-tugas dalam batasan yang ada secara disiplin dan menyeluruh.				

	CPL-8	Mampu untuk bekerja dalam tim lintas disiplin dan multikultural serta global internasional.												
	CPL-9	Mampu untuk bertanggung jawab kepada masyarakat dan mematuhi etika profesi dalam menyelesaikan permasalahan Teknik Elektro.												
	CPL-10	Memiliki kapasitas pembelajaran sepanjang hayat termasuk akses pengetahuan yang relevan tentang isu-isu terkini.												
	CPL-11	Mampu mengidentifikasi potensi daerah di Sumatera Utara dan menerapkan inovasi, metode, keterampilan, dan perangkat teknik elektro yang relevan untuk mengembangkan potensi daerah tersebut.												
	CPL-12	Mampu mendesain sistem dan/atau proses untuk memanfaatkan energi baru dan terbarukan sebagai sumber energi listrik alternatif dari potensi sumber daya lokal dan nasional dengan wawasan global.												
	Capaian Pembelajaran Mata Kuliah (CPMK)													
	CPMK 1	Mengenal kondisi steady state dan transient												
	CPMK 2	Memahami prinsip kerja transeint pada rangkaian RLC												
	CPMK 3	Memahami secara logis parameter-parameter dan konversi dan interkoneksinya												
	CPMK 4	Mengenal konsep dasar dengan melakukan praktikum												
Peta CPL – CPMK		CPL 01	CPL 02	CPL 03	CPL 04	CPL 05	CPL 06	CPL 07	CPL 08	CPL 09	CPL 10	CPL 11	CPL 12	
	CPMK 1	V	V	V	V	V	V							
	CPMK 2	V	V	V	V	V	V	V	V	V	V			
	CPMK 3				V	V	V	V	V	V	V	V	V	
	CPMK 4										V	V	V	
Diskripsi Singkat MK	Mata kuliah Rangkaian Listrik II membahas masalah transient pada rangkaian, rangkaian kutub empat, praktikum rangkaian dengan menggunakan Hukum Ohm; Hukum Kirchoff dan Teorema Superposisi; Transformasi Delta – Wye dan Wye – Delta; Metode Thevenin dan Norton; Reaktansi Kapasitif dan Rangkaian RC Seri; Resonansi Seri dan Paralle													
Bahan Kajian: Materi pembelajaran	Kontrak Perkuliahan (Peraturan, Tugas,Buku,Sistem Penilaian) dan Konsep Perancangan; Kondisi Steady State dan Transient (Kondisi Awal dan Sifat Elemen Rangkaian Saat Ditransient); Kondisi Awal Suatu Turunan; Transient Pada Rangkaian Dengan Sumber Unit Step; Transient Pada Rangkaian Rlc Paralel Dengan Sumber Unit Step dan Rangkaian Transient Dengan Sumber Fungsi Eksponensial; Transient Pada Rangkaian Paralel Rls Dengan Input Fungsi Eksponensial dan Sumber Fungsi Sinusoidal; Transient Pada Rangkaian Rlc Paralel dan Seri Dengan Input Sinusoidal, Rangkaian Kutub Empat; Parameter "G" ; "Abcd" dan "Abcd"; Konversi dan Interkoneksi Antar Parameter-Parameter Kutub 4; Tugas Sebelum Praktikum; Praktikum Melihat Gelombang Listrik Dengan Osiloskop; Mahasiswa dapat mengerjakan latihan tentang praktikum percobaan hukum ohm, hukum kirchoff dan teorema superposisi dan transformasi wye-delta; Mahasiswa memahami perkembangan teori													

	praktikum menggunakan metode thevenin, norton, dan reaktansi, kapasitansi dan rangkaian rc seri; Mahasiswa memahami praktikum resonansi
Pustaka	Utama: <ol style="list-style-type: none"> 1. Josep A. Edminister MSE, Theory and Problem of Electric Circuits, Schaum's Outline Series. Mc. Graw-Hill International Book Company.
	Pendukung: <ol style="list-style-type: none"> 1. WH. Hyat, JR., JE.Kemmerly, 1994, Rangkaian Listrik Jilid I, Penerbit Erlangga Jakarta. 2. Budiono Ismail, 1997, Rangkaian Listrik Jilid Pertama, Penerbit ITB Bandung. 3. Mohamad Ramdhani, 2008, Rangkaian Listrik, Penerbit Erlangga Jakarta. 4. Robert L. Boylestad, 2003, <i>Introductory Circuit Analysis</i>, Tenth edition, Prentice Hall Pearson Education International. 5. A. Bruce Carlson, 2000, CIRCUIITS-Engineering Concepts and Analysis of Linier Electric Circuits, Brooks / Cole Thomson Learning. 6. DLL.
Dosen Pengampu	Ir. Raja Harahap, MT
Matakuliah syarat	Rangkaian Listrik 1

Mg Ke-	Kemampuan akhir tiap tahapan belajar (Sub-CPMK)	Penilaian		Bentuk Pembelajaran; Metode Pembelajaran; Penugasan Mahasiswa; [Estimasi Waktu]		Materi Pembelajaran [Pustaka]	Bobot Penilaian (%)
		Indikator	Kriteria & Teknik	Tatap Muka (5)	Daring (6)		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1	Mahasiswa menguasai teori kontrak perkuliahan (peraturan, tugas,buku,sistem penilaian) dan konsep perancangan	<ol style="list-style-type: none"> <i>The accuracy in providing the information required</i> <i>The student's fluency in reading the memo (spelling, intonation, and speed)</i> <i>The correctness of the student's answers</i> 	<p>Kriteria: <i>Marking Scheme</i></p> <p>Bentuk: <i>Worksheet (Non-Tes)</i></p> <ol style="list-style-type: none"> <i>Reading the memo provided.</i> <i>Responding to the opening questions given.</i> <i>Completing the table (problem-solution) according to the information in the memo.</i> <i>Finding the word or phrase with similar meaning (synonym) according to the information in the memo. Classifying the words or phrases with the</i> 	<p>BM [(1x(2x60"))]</p> <p>Kegiatan:</p> <ol style="list-style-type: none"> <i>Reviewing the previous lessons.</i> <i>Reading the added learning materials.</i> <i>Recording the presence.</i> <i>Responding to opening questions in the 'Discussion Forum' section.</i> <i>Submitting the assigned tasks.</i> <p>PT [(1x(2x60"))]</p> <p>Task 3: <i>Restating the information obtained in the form of an a-150-words paragraph.</i></p> <p>Moda (Learning Management System): learning@usu.ac.id</p>	<p>TM [(1x(2x50"))]</p> <p>Kegiatan:</p> <ol style="list-style-type: none"> <i>Making notes of the learning materials explained.</i> <i>Responding to the questions or instructions given.</i> <i>Completing all the provided exercises individually.</i> <i>Discussing the exercises completed.</i> <p>Media: <i>Power Point Presentation (PPT)</i> <i>Zoom Meeting</i> <i>Audio Recording</i> <i>English Handout</i></p> <p>Metode Pembelajaran:</p> <ol style="list-style-type: none"> <i>Online Lecture</i> <i>Discussion</i> <i>Self-Paced</i> 	<p>Pokok Bahasan: Kontrak Perkuliahan (Peraturan, Tugas,Buku,Sistem Penilaian) dan Konsep Perancangan</p> <p>Referensi:</p> <ul style="list-style-type: none"> Budiono Ismail, 1997, Rangkaian Listrik Jilid Pertama, Penerbit ITB Bandung. 	5%

			<i>correct headings.</i>		<i>Learning</i>		
2	Mahasiswa memahami kondisi steady state dan transient (kondisi awal dan sifat elemen rangkaian saat ditransient)	<ol style="list-style-type: none"> <i>The accuracy in providing the information required</i> <i>The student's fluency in reading the memo (spelling, intonation, and speed)</i> <i>The correctness of the student's answers</i> 	<p>Kriteria: <i>Marking Scheme</i></p> <p>Bentuk: <i>Worksheet (Non-Tes)</i></p> <ol style="list-style-type: none"> <i>Reading the memo provided.</i> <i>Responding to the opening questions given.</i> <i>Completing the table (problem-solution) according to the information in the memo.</i> <i>Finding the word or phrase with</i> 	<p>BM [(1x(2x60"))]</p> <p>Kegiatan:</p> <ol style="list-style-type: none"> <i>Reviewing the previous lessons.</i> <i>Reading the added learning materials.</i> <i>Recording the presence.</i> <i>Responding to opening questions in the 'Discussion Forum' section.</i> <i>Submitting the assigned tasks.</i> <p>PT [(1x(2x60"))]</p> <p>Task 3:</p>	<p>TM [(1x(2x50"))]</p> <p>Kegiatan:</p> <ol style="list-style-type: none"> <i>Making notes of the learning materials explained.</i> <i>Responding to the questions or instructions given.</i> <i>Completing all the provided exercises individually.</i> <i>Discussing the exercises completed.</i> <p>Media:</p>	<p>Pokok Bahasan: Kondisi Steady State dan Transient (Kondisi Awal dan Sifat Elemen Rangkaian Saat Ditransient)</p> <p>Referensi:</p> <ul style="list-style-type: none"> - WH. Hyat, JR., JE.Kemmerly, 1994, Rangkaian Listrik Jilid I, Penerbit Erlangga Jakarta. - Budiono Ismail, 1997, Rangkaian Listrik Jilid Pertama, Penerbit ITB Bandung. - Mohamad Ramdhani, 2008, Rangkaian Listrik, Penerbit Erlangga Jakarta. - Josep A. Edminister MSE, Theory and Problem of Electric Circuits, Schaum's Outline Series. Mc. Graw-Hill International Book Company. - A. Bruce Carlson, 2000, CIRCUITS-Engineering Concepts and Analysis of Linier Electric Circuits, Brooks / Cole Thomson Learning. <p>DLL</p>	5%

			<p>similar meaning (synonym) according to the information in the memo. Classifying the words or phrases with the correct headings.</p>	<p>Restating the information obtained in the form of an a-150-words paragraph.</p> <p>Moda (Learning Management System): elearning@usu.ac.id</p>	<p>Power Point Presentation (PPT) Zoom Meeting Audio Recording English Handout</p> <p>Metode Pembelajaran: 4. Online Lecture 5. Discussion 6. Self-Paced Learning</p>		
3	Mahasiswa menguasai kondisi awal suatu turunan	<ol style="list-style-type: none"> The accuracy in providing the information required The student's fluency in reading the memo (spelling, intonation, and speed) The correctness of the student's answers 	<p>Kriteria: Marking Scheme</p> <p>Bentuk: Worksheet (Non-Tes)</p> <ol style="list-style-type: none"> Reading the memo provided. Responding to the opening questions given. Completing the table (problem-solution) according to the information in the memo. Finding the word or phrase with 	<p>BM [(1x(2x60"))]</p> <p>Kegiatan:</p> <ol style="list-style-type: none"> Reviewing the previous lessons. Reading the added learning materials. Recording the presence. Responding to opening questions in the 'Discussion Forum' section. Submitting the assigned tasks. <p>PT [(1x(2x60"))]</p> <p>Task 3:</p>	<p>TM [(1x(2x50"))]</p> <p>Kegiatan:</p> <ol style="list-style-type: none"> Making notes of the learning materials explained. Responding to the questions or instructions given. Completing all the provided exercises individually. Discussing the exercises completed. <p>Media:</p>	<p>Pokok Bahasan: Kondisi Awal Suatu Turunan</p> <p>Referensi:</p> <ul style="list-style-type: none"> WH. Hyat, JR., JE. Kemmerly, 1994, Rangkaian Listrik Jilid I, Penerbit Erlangga Jakarta. Budiono Ismail, 1997, Rangkaian Listrik Jilid Pertama, Penerbit ITB Bandung. Mohamad Ramdhani, 2008, Rangkaian Listrik, Penerbit Erlangga Jakarta. Josep A. Edminister MSE, Theory and Problem of Electric Circuits, Schaum's Outline Series. Mc. Graw-Hill International Book Company. A. Bruce Carlson, 2000, CIRCUITS-Engineering Concepts and Analysis of Linier Electric Circuits, Brooks / Cole Thomson Learning. <p>DLL</p>	5%

			<p>similar meaning (synonym) according to the information in the memo. Classifying the words or phrases with the correct headings.</p>	<p>Restating the information obtained in the form of an a-150-words paragraph.</p> <p>Moda (Learning Management System): elearning@usu.ac.id</p>	<p>Power Point Presentation (PPT) Zoom Meeting Audio Recording English Handout</p> <p>Metode Pembelajaran: 7. Online Lecture 8. Discussion 9. Self-Paced Learning</p>		
4	Mahasiswa mampu menerapkan teori transient pada rangkaian dengan sumber unit step	<ol style="list-style-type: none"> The accuracy in providing the information required The student's fluency in reading the memo (spelling, intonation, and speed) The correctness of the student's answers 	<p>Kriteria: Marking Scheme</p> <p>Bentuk: Worksheet (Non-Tes)</p> <ol style="list-style-type: none"> Reading the memo provided. Responding to the opening questions given. Completing the table (problem-solution) according to the information in the memo. Finding the word or phrase with 	<p>BM [(1x(2x60"))]</p> <p>Kegiatan:</p> <ol style="list-style-type: none"> Reviewing the previous lessons. Reading the added learning materials. Recording the presence. Responding to opening questions in the 'Discussion Forum' section. Submitting the assigned tasks. <p>PT [(1x(2x60"))]</p> <p>Task 3:</p>	<p>TM [(1x(2x50"))]</p> <p>Kegiatan:</p> <ol style="list-style-type: none"> Making notes of the learning materials explained. Responding to the questions or instructions given. Completing all the provided exercises individually. Discussing the exercises completed. <p>Media:</p>	<p>Pokok Bahasan: Transient Pada Rangkaian Dengan Sumber Unit Step</p> <p>Referensi:</p> <ul style="list-style-type: none"> WH. Hyat, JR., JE.Kemmerly, 1994, Rangkaian Listrik Jilid I, Penerbit Erlangga Jakarta. Budiono Ismail, 1997, Rangkaian Listrik Jilid Pertama, Penerbit ITB Bandung. Mohamad Ramdhani, 2008, Rangkaian Listrik, Penerbit Erlangga Jakarta. Josep A. Edminister MSE, Theory and Problem of Electric Circuits, Schaum's Outline Series. Mc. Graw-Hill International Book Company. A. Bruce Carlson, 2000, CIRCUITS-Engineering Concepts and Analysis of Linier Electric Circuits, Brooks / Cole Thomson Learning. <p>DLL</p>	5%

			<p>similar meaning (synonym) according to the information in the memo. Classifying the words or phrases with the correct headings.</p>	<p>Restating the information obtained in the form of an a-150-words paragraph.</p> <p>Moda (Learning Management System): elearning@usu.ac.id</p>	<p>Power Point Presentation (PPT) Zoom Meeting Audio Recording English Handout</p> <p>Metode Pembelajaran:</p> <p>10. Online Lecture 11. Discussion 12. Self-Paced Learning</p>		
5	<p>Mahasiswa dapat mengerjakan latihan tentang transient pada rangkaian rlc paralel dengan sumber unit step dan rangkaian transient dengan sumber fungsi eksponensial</p>	<ol style="list-style-type: none"> The accuracy in providing the information required The student's fluency in reading the memo (spelling, intonation, and speed) The correctness of the student's answers 	<p>Kriteria: Marking Scheme</p> <p>Bentuk: Worksheet (Non-Tes)</p> <ol style="list-style-type: none"> Reading the memo provided. Responding to the opening questions given. Completing the table (problem-solution) according to the information in the memo. Finding the word or phrase with 	<p>BM [(1x(2x60"))]</p> <p>Kegiatan:</p> <ol style="list-style-type: none"> Reviewing the previous lessons. Reading the added learning materials. Recording the presence. Responding to opening questions in the 'Discussion Forum' section. Submitting the assigned tasks. <p>PT [(1x(2x60"))]</p> <p>Task 3:</p>	<p>TM [(1x(2x50"))]</p> <p>Kegiatan:</p> <ol style="list-style-type: none"> Making notes of the learning materials explained. Responding to the questions or instructions given. Completing all the provided exercises individually. Discussing the exercises completed. <p>Media:</p>	<p>Pokok Bahasan: Transient Pada Rangkaian Rlc Paralel Dengan Sumber Unit Step dan Rangkaian Transient Dengan Sumber Fungsi Eksponensial</p> <p>Referensi:</p> <ul style="list-style-type: none"> WH. Hyat, JR., JE.Kemmerly, 1994, Rangkaian Listrik Jilid I, Penerbit Erlangga Jakarta. Budiono Ismail, 1997, Rangkaian Listrik Jilid Pertama, Penerbit ITB Bandung. Mohamad Ramdhani, 2008, Rangkaian Listrik, Penerbit Erlangga Jakarta. Josep A. Edminister MSE, Theory and Problem of Electric Circuits, Schaum's Outline Series. Mc. Graw-Hill International Book Company. A. Bruce Carlson, 2000, CIRCUITS-Engineering Concepts and Analysis of Linier Electric Circuits, Brooks / Cole Thomson Learning. <p>DLL</p>	5%

			<p>similar meaning (synonym) according to the information in the memo. Classifying the words or phrases with the correct headings.</p>	<p>Restating the information obtained in the form of an a-150-words paragraph.</p> <p>Moda (Learning Management System): elearning@usu.ac.id</p>	<p>Power Point Presentation (PPT) Zoom Meeting Audio Recording English Handout</p> <p>Metode Pembelajaran: 13. Online Lecture 14. Discussion 15. Self-Paced Learning</p>		
6	<p>Mahasiswa memahami perkembangan teori transient pada rangkaian paralel rls dengan input fungsi eksponensial dan sumber fungsi sinusoidal</p>	<ol style="list-style-type: none"> The accuracy in providing the information required The student's fluency in reading the memo (spelling, intonation, and speed) The correctness of the student's answers 	<p>Kriteria: Marking Scheme</p> <p>Bentuk: Worksheet (Non-Tes)</p> <ol style="list-style-type: none"> Reading the memo provided. Responding to the opening questions given. Completing the table (problem-solution) according to the information in the memo. Finding the word or phrase with 	<p>BM [(1x(2x60"))]</p> <p>Kegiatan:</p> <ol style="list-style-type: none"> Reviewing the previous lessons. Reading the added learning materials. Recording the presence. Responding to opening questions in the 'Discussion Forum' section. Submitting the assigned tasks. <p>PT [(1x(2x60"))]</p> <p>Task 3:</p>	<p>TM [(1x(2x50"))]</p> <p>Kegiatan:</p> <ol style="list-style-type: none"> Making notes of the learning materials explained. Responding to the questions or instructions given. Completing all the provided exercises individually. Discussing the exercises completed. <p>Media:</p>	<p>Pokok Bahasan: Mahasiswa memahami perkembangan teori transient pada rangkaian paralel rls dengan input fungsi eksponensial dan sumber fungsi sinusoidal</p> <p>Referensi:</p> <ul style="list-style-type: none"> WH. Hyat, JR., JE.Kemmerly, 1994, Rangkaian Listrik Jilid I, Penerbit Erlangga Jakarta. Budiono Ismail, 1997, Rangkaian Listrik Jilid Pertama, Penerbit ITB Bandung. Mohamad Ramdhani, 2008, Rangkaian Listrik, Penerbit Erlangga Jakarta. Josep A. Edminister MSE, Theory and Problem of Electric Circuits, Schaum's Outline Series. Mc. Graw-Hill International Book Company. A. Bruce Carlson, 2000, CIRCUITS-Engineering Concepts and Analysis of Linier Electric Circuits, Brooks / Cole Thomson Learning. <p>DLL</p>	5%

			<p>similar meaning (synonym) according to the information in the memo. Classifying the words or phrases with the correct headings.</p>	<p>Restating the information obtained in the form of an a-150-words paragraph.</p> <p>Moda (Learning Management System): learning@usu.ac.id</p>	<p>Power Point Presentation (PPT) Zoom Meeting Audio Recording English Handout</p> <p>Metode Pembelajaran: 16. Online Lecture 17. Discussion 18. Self-Paced Learning</p>		
7	<p>Mahasiswa dapat mempresentasikan pengetahuan transient pada rangkaian rlc paralel dan seri dengan input sinusoidal, rangkaian kutub empat</p>	<ol style="list-style-type: none"> The accuracy in providing the information required The student's fluency in reading the memo (spelling, intonation, and speed) The correctness of the student's answers 	<p>Kriteria: Marking Scheme</p> <p>Bentuk: Worksheet (Non-Tes)</p> <ol style="list-style-type: none"> Reading the memo provided. Responding to the opening questions given. Completing the table (problem-solution) according to the information in the memo. Finding the word or phrase with 	<p>BM [(1x(2x60"))]</p> <p>Kegiatan:</p> <ol style="list-style-type: none"> Reviewing the previous lessons. Reading the added learning materials. Recording the presence. Responding to opening questions in the 'Discussion Forum' section. Submitting the assigned tasks. <p>PT [(1x(2x60"))]</p> <p>Task 3:</p>	<p>TM [(1x(2x50"))]</p> <p>Kegiatan:</p> <ol style="list-style-type: none"> Making notes of the learning materials explained. Responding to the questions or instructions given. Completing all the provided exercises individually. Discussing the exercises completed. <p>Media:</p>	<p>Pokok Bahasan: Transient Pada Rangkaian Rlc Paralel dan Seri Dengan Input Sinusoidal, Rangkaian Kutub Empat</p> <p>Referensi:</p> <ul style="list-style-type: none"> WH. Hyat, JR., JE.Kemmerly, 1994, Rangkaian Listrik Jilid I, Penerbit Erlangga Jakarta. Budiono Ismail, 1997, Rangkaian Listrik Jilid Pertama, Penerbit ITB Bandung. Mohamad Ramdhani, 2008, Rangkaian Listrik, Penerbit Erlangga Jakarta. Josep A. Edminister MSE, Theory and Problem of Electric Circuits, Schaum's Outline Series. Mc. Graw-Hill International Book Company. A. Bruce Carlson, 2000, CIRCUITS-Engineering Concepts and Analysis of Linier Electric Circuits, Brooks / Cole Thomson Learning. <p>DLL</p>	5%

			<p>similar meaning (synonym) according to the information in the memo. Classifying the words or phrases with the correct headings.</p>	<p>Restating the information obtained in the form of an a-150-words paragraph.</p> <p>Moda (Learning Management System): elearning@usu.ac.id</p>	<p>Power Point Presentation (PPT) Zoom Meeting Audio Recording English Handout</p> <p>Metode Pembelajaran: 19. Online Lecture 20. Discussion 21. Self-Paced Learning</p>		
8	UJIAN TENGAH SEMESTER					15%	
9	Mahasiswa menguasai teori parameter "g" ; "abcd" dan "abcd"	<ol style="list-style-type: none"> The accuracy in providing the information required The student's fluency in reading the memo (spelling, intonation, and speed) The correctness of the student's answers 	<p>Kriteria: Marking Scheme</p> <p>Bentuk: Worksheet (Non-Tes)</p> <ol style="list-style-type: none"> Reading the memo provided. Responding to the opening questions given. Completing the table (problem-solution) according to the information in the memo. 	<p>BM [(1x(2x60")) Kegiatan:</p> <ol style="list-style-type: none"> Reviewing the previous lessons. Reading the added learning materials. Recording the presence. Responding to opening questions in the 'Discussion Forum' section. Submitting the assigned tasks. <p>PT [(1x(2x60"))</p>	<p>TM [(1x(2x50")) Kegiatan:</p> <ol style="list-style-type: none"> Making notes of the learning materials explained. Responding to the questions or instructions given. Completing all the provided exercises individually. Discussing the exercises completed. <p>Media:</p>	<p>Pokok Bahasan: Parameter "G" ; "Abcd" dan "abcd"</p> <p>Referensi:</p> <ul style="list-style-type: none"> WH. Hyat, JR., JE.Kemmerly, 1994, Rangkaian Listrik Jilid I, Penerbit Erlangga Jakarta. Budiono Ismail, 1997, Rangkaian Listrik Jilid Pertama, Penerbit ITB Bandung. Mohamad Ramdhani, 2008, Rangkaian Listrik, Penerbit Erlangga Jakarta. Josep A. Edminister MSE, Theory and Problem of Electric Circuits, Schaum's Outline Series. Mc. Graw-Hill International Book Company. A. Bruce Carlson, 2000, CIRCUITS-Engineering Concepts and Analysis of Linier Electric Circuits, Brooks / Cole Thomson Learning. <p>DLL</p>	5%

			<p>4. <i>Finding the word or phrase with similar meaning (synonym) according to the information in the memo. Classifying the words or phrases with the correct headings.</i></p>	<p>Task 3: <i>Restating the information obtained in the form of an a-150-words paragraph.</i></p> <p>Moda (Learning Management System): learning@usu.ac.id</p>	<p><i>Power Point Presentation (PPT)</i> <i>Zoom Meeting</i> <i>Audio Recording</i> <i>English Handout</i></p> <p>Metode Pembelajaran:</p> <p>22. <i>Online Lecture</i> 23. <i>Discussion</i> 24. <i>Self-Paced Learning</i></p>		
10	Mahasiswa memahami konversi dan interkoneksi antar parameter-parameter kutub 4	<p>1. <i>The accuracy in providing the information required</i></p> <p>2. <i>The student's fluency in reading the memo (spelling, intonation, and speed)</i></p> <p>3. <i>The correctness of the student's answers</i></p>	<p>Kriteria: <i>Marking Scheme</i></p> <p>Bentuk: <i>Worksheet (Non-Tes)</i></p> <p>1. <i>Reading the memo provided.</i></p> <p>2. <i>Responding to the opening questions given.</i></p> <p>3. <i>Completing the table (problem-solution) according to the information in the memo.</i></p> <p>4. <i>Finding the word or phrase with</i></p>	<p>BM [(1x(2x60"))]</p> <p>Kegiatan:</p> <p>1. <i>Reviewing the previous lessons.</i></p> <p>2. <i>Reading the added learning materials.</i></p> <p>3. <i>Recording the presence.</i></p> <p>4. <i>Responding to opening questions in the 'Discussion Forum' section.</i></p> <p>5. <i>Submitting the assigned tasks.</i></p> <p>PT [(1x(2x60"))]</p> <p>Task 3:</p>	<p>TM [(1x(2x50"))]</p> <p>Kegiatan:</p> <p>1. <i>Making notes of the learning materials explained.</i></p> <p>2. <i>Responding to the questions or instructions given.</i></p> <p>3. <i>Completing all the provided exercises individually.</i></p> <p>4. <i>Discussing the exercises completed.</i></p> <p>Media:</p>	<p>Pokok Bahasan: Konversi dan Interkoneksi Antar Parameter-Parameter Kutub 4</p> <p>Referensi:</p> <ul style="list-style-type: none"> - WH. Hyat, JR., JE.Kemmerly, 1994, Rangkaian Listrik Jilid I, Penerbit Erlangga Jakarta. - Budiono Ismail, 1997, Rangkaian Listrik Jilid Pertama, Penerbit ITB Bandung. - Mohamad Ramdhani, 2008, Rangkaian Listrik, Penerbit Erlangga Jakarta. - Josep A. Edminister MSE, Theory and Problem of Electric Circuits, Schaum's Outline Series. Mc. Graw-Hill International Book Company. - A. Bruce Carlson, 2000, CIRCUITS-Engineering Concepts and Analysis of Linier Electric Circuits, Brooks / Cole Thomson Learning. <p>DLL</p>	5%

			<p>similar meaning (synonym) according to the information in the memo. Classifying the words or phrases with the correct headings.</p>	<p>Restating the information obtained in the form of an a-150-words paragraph.</p> <p>Moda (Learning Management System): elearning@usu.ac.id</p>	<p>Power Point Presentation (PPT) Zoom Meeting Audio Recording English Handout</p> <p>Metode Pembelajaran: 25. Online Lecture 26. Discussion 27. Self-Paced Learning</p>		
11	Mahasiswa menguasai tugas sebelum praktikum	<ol style="list-style-type: none"> The accuracy in providing the information required The student's fluency in reading the memo (spelling, intonation, and speed) The correctness of the student's answers 	<p>Kriteria: Marking Scheme</p> <p>Bentuk: Worksheet (Non-Tes)</p> <ol style="list-style-type: none"> Reading the memo provided. Responding to the opening questions given. Completing the table (problem-solution) according to the information in the memo. Finding the word or phrase with 	<p>BM [(1x(2x60"))]</p> <p>Kegiatan:</p> <ol style="list-style-type: none"> Reviewing the previous lessons. Reading the added learning materials. Recording the presence. Responding to opening questions in the 'Discussion Forum' section. Submitting the assigned tasks. <p>PT [(1x(2x60"))]</p> <p>Task 3:</p>	<p>TM [(1x(2x50"))]</p> <p>Kegiatan:</p> <ol style="list-style-type: none"> Making notes of the learning materials explained. Responding to the questions or instructions given. Completing all the provided exercises individually. Discussing the exercises completed. <p>Media:</p>	<p>Pokok Bahasan: Tugas Sebelum Praktikum</p> <p>Referensi:</p> <ul style="list-style-type: none"> WH. Hyat, JR., JE. Kemmerly, 1994, Rangkaian Listrik Jilid I, Penerbit Erlangga Jakarta. Budiono Ismail, 1997, Rangkaian Listrik Jilid Pertama, Penerbit ITB Bandung. Mohamad Ramdhani, 2008, Rangkaian Listrik, Penerbit Erlangga Jakarta. Josep A. Edminister MSE, Theory and Problem of Electric Circuits, Schaum's Outline Series. Mc. Graw-Hill International Book Company. A. Bruce Carlson, 2000, CIRCUITS-Engineering Concepts and Analysis of Linier Electric Circuits, Brooks / Cole Thomson Learning. <p>DLL</p>	5%

			<p>similar meaning (synonym) according to the information in the memo. Classifying the words or phrases with the correct headings.</p>	<p>Restating the information obtained in the form of an a-150-words paragraph.</p> <p>Moda (Learning Management System): elearning@usu.ac.id</p>	<p>Power Point Presentation (PPT) Zoom Meeting Audio Recording English Handout</p> <p>Metode Pembelajaran: 28. Online Lecture 29. Discussion 30. Self-Paced Learning</p>		
12	Mahasiswa mampu menerapkan teori praktikum melihat gelombang listrik dengan osiloskop	<ol style="list-style-type: none"> The accuracy in providing the information required The student's fluency in reading the memo (spelling, intonation, and speed) The correctness of the student's answers 	<p>Kriteria: Marking Scheme</p> <p>Bentuk: Worksheet (Non-Tes)</p> <ol style="list-style-type: none"> Reading the memo provided. Responding to the opening questions given. Completing the table (problem-solution) according to the information in the memo. Finding the word or phrase with 	<p>BM [(1x(2x60"))]</p> <p>Kegiatan:</p> <ol style="list-style-type: none"> Reviewing the previous lessons. Reading the added learning materials. Recording the presence. Responding to opening questions in the 'Discussion Forum' section. Submitting the assigned tasks. <p>PT [(1x(2x60"))]</p> <p>Task 3:</p>	<p>TM [(1x(2x50"))]</p> <p>Kegiatan:</p> <ol style="list-style-type: none"> Making notes of the learning materials explained. Responding to the questions or instructions given. Completing all the provided exercises individually. Discussing the exercises completed. <p>Media:</p>	<p>Pokok Bahasan: Praktikum Melihat Gelombang Listrik Dengan Osiloskop</p> <p>Referensi:</p> <ul style="list-style-type: none"> WH. Hyat, JR., JE.Kemmerly, 1994, Rangkaian Listrik Jilid I, Penerbit Erlangga Jakarta. Budiono Ismail, 1997, Rangkaian Listrik Jilid Pertama, Penerbit ITB Bandung. Mohamad Ramdhani, 2008, Rangkaian Listrik, Penerbit Erlangga Jakarta. Josep A. Edminister MSE, Theory and Problem of Electric Circuits, Schaum's Outline Series. Mc. Graw-Hill International Book Company. A. Bruce Carlson, 2000, CIRCUITS-Engineering Concepts and Analysis of Linier Electric Circuits, Brooks / Cole Thomson Learning. <p>DLL</p>	5%

			<p>similar meaning (synonym) according to the information in the memo. Classifying the words or phrases with the correct headings.</p>	<p>Restating the information obtained in the form of an a-150-words paragraph.</p> <p>Moda (Learning Management System): elearning@usu.ac.id</p>	<p>Power Point Presentation (PPT) Zoom Meeting Audio Recording English Handout</p> <p>Metode Pembelajaran:</p> <p>31. Online Lecture 32. Discussion 33. Self-Paced Learning</p>		
13	<p>Mahasiswa dapat mengerjakan latihan tentang praktikum percobaan hukum ohm, hukum kirchoff dan teorema superposisi dan transformasi wye-delta</p>	<ol style="list-style-type: none"> <i>The accuracy in providing the information required</i> <i>The student's fluency in reading the memo (spelling, intonation, and speed)</i> <i>The correctness of the student's answers</i> 	<p>Kriteria: Marking Scheme</p> <p>Bentuk: Worksheet (Non-Tes)</p> <ol style="list-style-type: none"> <i>Reading the memo provided.</i> <i>Responding to the opening questions given.</i> <i>Completing the table (problem-solution) according to the information in the memo.</i> <i>Finding the word or phrase with</i> 	<p>BM [(1x(2x60"))]</p> <p>Kegiatan:</p> <ol style="list-style-type: none"> <i>Reviewing the previous lessons.</i> <i>Reading the added learning materials.</i> <i>Recording the presence.</i> <i>Responding to opening questions in the 'Discussion Forum' section.</i> <i>Submitting the assigned tasks.</i> <p>PT [(1x(2x60"))]</p> <p>Task 3:</p>	<p>TM [(1x(2x50"))]</p> <p>Kegiatan:</p> <ol style="list-style-type: none"> <i>Making notes of the learning materials explained.</i> <i>Responding to the questions or instructions given.</i> <i>Completing all the provided exercises individually.</i> <i>Discussing the exercises completed.</i> <p>Media:</p>	<p>Pokok Bahasan: Praktikum Percobaan Hukum Ohm, Hukum Kirchoff dan Teorema Superposisi dan Transformasi Wye-Delta</p> <p>Referensi:</p> <ul style="list-style-type: none"> WH. Hyat, JR., JE.Kemmerly, 1994, Rangkaian Listrik Jilid I, Penerbit Erlangga Jakarta. Budiono Ismail, 1997, Rangkaian Listrik Jilid Pertama, Penerbit ITB Bandung. Mohamad Ramdhani, 2008, Rangkaian Listrik, Penerbit Erlangga Jakarta. Josep A. Edminister MSE, Theory and Problem of Electric Circuits, Schaum's Outline Series. Mc. Graw-Hill International Book Company. A. Bruce Carlson, 2000, CIRCUITS-Engineering Concepts and Analysis of Linier Electric Circuits, Brooks / Cole Thomson Learning. <p>DLL</p>	5%

			<p>similar meaning (synonym) according to the information in the memo. Classifying the words or phrases with the correct headings.</p>	<p>Restating the information obtained in the form of an a-150-words paragraph.</p> <p>Moda (Learning Management System): elearning@usu.ac.id</p>	<p>Power Point Presentation (PPT) Zoom Meeting Audio Recording English Handout</p> <p>Metode Pembelajaran: 34. Online Lecture 35. Discussion 36. Self-Paced Learning</p>		
14	<p>Mahasiswa memahami perkembangan teori praktikum menggunakan metode thevenin, norton, dan reaktansi, kapasitansi dan rangkaian rc seri</p>	<ol style="list-style-type: none"> <i>The accuracy in providing the information required</i> <i>The student's fluency in reading the memo (spelling, intonation, and speed)</i> <i>The correctness of the student's answers</i> 	<p>Kriteria: Marking Scheme</p> <p>Bentuk: Worksheet (Non-Tes)</p> <ol style="list-style-type: none"> <i>Reading the memo provided.</i> <i>Responding to the opening questions given.</i> <i>Completing the table (problem-solution) according to the information in the memo.</i> <i>Finding the word or phrase with</i> 	<p>BM [(1x(2x60"))]</p> <p>Kegiatan:</p> <ol style="list-style-type: none"> <i>Reviewing the previous lessons.</i> <i>Reading the added learning materials.</i> <i>Recording the presence.</i> <i>Responding to opening questions in the 'Discussion Forum' section.</i> <i>Submitting the assigned tasks.</i> <p>PT [(1x(2x60"))]</p> <p>Task 3:</p>	<p>TM [(1x(2x50"))]</p> <p>Kegiatan:</p> <ol style="list-style-type: none"> <i>Making notes of the learning materials explained.</i> <i>Responding to the questions or instructions given.</i> <i>Completing all the provided exercises individually.</i> <i>Discussing the exercises completed.</i> <p>Media:</p>	<p>Pokok Bahasan: Praktikum Menggunakan Metode Thevenin, Norton, dan Reaktansi, Kapasitansi dan Rangkaian Rc Seri</p> <p>Referensi:</p> <ul style="list-style-type: none"> WH. Hyat, JR., JE.Kemmerly, 1994, Rangkaian Listrik Jilid I, Penerbit Erlangga Jakarta. Budiono Ismail, 1997, Rangkaian Listrik Jilid Pertama, Penerbit ITB Bandung. Mohamad Ramdhani, 2008, Rangkaian Listrik, Penerbit Erlangga Jakarta. Josep A. Edminister MSE, Theory and Problem of Electric Circuits, Schaum's Outline Series. Mc. Graw-Hill International Book Company. A. Bruce Carlson, 2000, CIRCUITS-Engineering Concepts and Analysis of Linier Electric Circuits, Brooks / Cole Thomson Learning. <p>DLL</p>	5%

			<p>similar meaning (synonym) according to the information in the memo. Classifying the words or phrases with the correct headings.</p>	<p>Restating the information obtained in the form of an a-150-words paragraph.</p> <p>Moda (Learning Management System): elearning@usu.ac.id</p>	<p>Power Point Presentation (PPT) Zoom Meeting Audio Recording English Handout</p> <p>Metode Pembelajaran: 37. Online Lecture 38. Discussion 39. Self-Paced Learning</p>		
15	Mahasiswa memahami praktikum resonansi	<ol style="list-style-type: none"> The accuracy in providing the information required The student's fluency in reading the memo (spelling, intonation, and speed) The correctness of the student's answers 	<p>Kriteria: Marking Scheme</p> <p>Bentuk: Worksheet (Non-Tes)</p> <ol style="list-style-type: none"> Reading the memo provided. Responding to the opening questions given. Completing the table (problem-solution) according to the information in the memo. Finding the word or phrase with 	<p>BM [(1x(2x60"))]</p> <p>Kegiatan:</p> <ol style="list-style-type: none"> Reviewing the previous lessons. Reading the added learning materials. Recording the presence. Responding to opening questions in the 'Discussion Forum' section. Submitting the assigned tasks. <p>PT [(1x(2x60"))]</p> <p>Task 3:</p>	<p>TM [(1x(2x50"))]</p> <p>Kegiatan:</p> <ol style="list-style-type: none"> Making notes of the learning materials explained. Responding to the questions or instructions given. Completing all the provided exercises individually. Discussing the exercises completed. <p>Media:</p>	<p>Pokok Bahasan: Praktikum Resonansi</p> <p>Referensi:</p> <ul style="list-style-type: none"> WH. Hyat, JR., JE. Kemmerly, 1994, Rangkaian Listrik Jilid I, Penerbit Erlangga Jakarta. Budiono Ismail, 1997, Rangkaian Listrik Jilid Pertama, Penerbit ITB Bandung. Mohamad Ramdhani, 2008, Rangkaian Listrik, Penerbit Erlangga Jakarta. Josep A. Edminister MSE, Theory and Problem of Electric Circuits, Schaum's Outline Series. Mc. Graw-Hill International Book Company. A. Bruce Carlson, 2000, CIRCUITS-Engineering Concepts and Analysis of Linier Electric Circuits, Brooks / Cole Thomson Learning. DLL 	5%

			<p><i>similar meaning (synonym) according to the information in the memo. Classifying the words or phrases with the correct headings.</i></p>	<p><i>Restating the information obtained in the form of an a-150-words paragraph.</i></p> <p>Moda (Learning Management System): elearning@usu.ac.id</p>	<p><i>Power Point Presentation (PPT) Zoom Meeting Audio Recording English Handout</i></p> <p>Metode Pembelajaran:</p> <p>40. <i>Online Lecture</i> 41. <i>Discussion</i> 42. <i>Self-Paced Learning</i></p>	
16	UJIAN AKHIR SEMESTER					15%
	Total					100