



TEACHING PLAN

BACHELOR OF EDUCATION IN BUILDING ENGINEERING (BE-BE) STUDY PROGRAM

DEPARTMENT OF CIVIL ENGINEERING, FACULTY OF ENGINEERING, UNIVERSITAS NEGERI PADANG

COURSES	CODE	GROUP OF COURSES	SCU		SE	VERSION
			Theory	Pract	M	
CARPENTRY	SIP1.61.3301	Study Program Compulsory Courses		4	4	
Responsible Lecturer	<u>Fani Keprila P., S.Pd., M.Pd.T</u> NIP. 199008142019032015			the signature of the responsible lecturer		
<u>Information</u>	Dean of the Faculty of Engineering	Head of the Civil Engineering Department	Study Program Coordinator Building Engineering Education			
	<u>Dr. Fahmi Rizal, M.Pd., M.T</u> NIP. 195912041985031004	<u>Faisal Ashar, Ph.D.</u> NIP. 19750103 200312 1001	<u>Drs. Revian Body, MSA.</u> NIP. 19600103 198503 1003			
Graduate Learning	Learning Achievement of Graduate Study Programs					

Outcomes

1. Master *basic knowledge of science* (mathematics, natural sciences) and other scientific disciplines that form the basis of building engineering vocational education field for carrying out professional work (*Knowledge and Understanding*).
 - 1.1. Able to implement basic concepts of mathematics and physics to master subjects matter in the field of building engineering vocational education.
 - 1.2. Mastering Statics, Mechanics, Statistics, Technology Materials, and Engineering Drawings as the basic knowledge in the field of building engineering vocational education.

2. Able to identify, formulate, solve, and evaluate various technical problems of buildings as the basic ability for teaching in the field of building engineering vocational education (*Engineering analysis, investigation and assessment*).
 - 2.1. Able to identify, formulate, solve, and evaluate technical problems in the field of geotechnical and transportation as the basic ability for teaching in the field of building engineering vocational education.

 - 2.2. Able to identify, formulate, solve, and evaluate technical problems in the field of structure and construction management as the basic ability for teaching in the field of building engineering vocational education.

 - 2.3. Able to identify, formulate, solve, and evaluate technical problems in the field of hydrology as the basic ability for teaching in the field of building engineering vocational education.

3. Possess the ability to design building by taking into account environmental, social, health and work safety issues as the basis for teaching in the field of

building engineering vocational education (*Engineering design*).

3.1. Able to make design programming by taking into account environmental, social, health and work safety issues, in cooperation with various party related.

3.2. Able to analyze the design by taking into account environmental, social, health and work safety aspects.

3.3. Able to produce design by taking into account environmental, social, health and work safety aspects.

4. Possess social, managerial, team work, and effective communication competencies, entrepreneurial character, environmental insight and life-long learning habits. (*Transferable and soft skills*).

4.1. Possess religious character implemented in personal and professional activities.

4.2. Possess the spirit of nationalism, social sensitivity and environmental insight

4.3. Able to communicate effectively and work in a team.

4.4. Able to transfer science and technology to the community to improve the quality of life

4.5. Possess entrepreneurial character

5. Possess the ability to innovate and adapt to the development of science and technology, and implement it into the learning process of building engineering vocational education field by taking into account non-technical risks that may occur (ethical, ecological, commercial, and industrial impact) (*Engineering practice*).

5.1. Able to innovate and use information technology (software) in the field of

building engineering vocational education by taking into account the ethical, ecological, commercial and industrial impact.

5.2. Able to use information technology-based equipment (hardware) in field of building engineering vocational education.

6. Possess a good ability to design, implement and evaluate the learning process in the field of building engineering vocational education (*Educational design*).

6.1. Able to design curriculum and learning process of building engineering vocational education.

6.2. Able to implement, control, evaluate and improve the quality of learning process through research in the field of building engineering vocational education.

6.3. Able to develop an effective, efficient, and attractive learning media in the field of building engineering vocational education.

Course Learning Outcomes

Learning Achievement of Course (CPMK)

CPMK	CPL
1. Have an understanding of the operation of woodworking tools	1.1, 1.2, 1.3
2. Have knowledge of wood connections and connections	1.1, 1.2, 1.3, 2.1, 2.2, 2.3, 2.4
3. Have the knowledge, attitude, and skills of plucking the four sides of the wood, making pen and hole connections, and making bird tail joints.	1.1, 1.2, 1.3, 3.2, 4.1, 4.2, 4.3
4. Have knowledge, attitude, and skills to operate wood machinery	1.1, 1.2, 1.3, 3.2, 4.1, 4.2, 4.3
5. Have knowledge, attitude, and skills to create ventilation coils	1.1, 1.2, 1.3, 3.2, 4.1, 4.2, 4.3
6. Have the knowledge, attitude, and skills to make single cozen	1.1, 1.2, 1.3, 3.2, 4.1,

		4.2, 4.3
	7. Have the knowledge, attitude, and skills to make panel doors	1.1, 1.2, 1.3, 3.2, 4.1, 4.2, 4.3
Short descriptions of course	This course provides knowledge and skills to operate wooden hand tools and wood machines to make connections and wood connections and assemble them in an object of construction work or furniture	
Referance	<p>Primary (RU) :</p> <ol style="list-style-type: none"> 1. Aminudin. 2000. <i>Mesin Portable dan Statis</i>. Gema Gempita : Jakarta. 2. Djaloed Anwardi. 1985. <i>Teori kerja Kayu dengan perkakas Tangan I</i>. Jurusan Pendidikan Menengah Kejuruan : Jakarta. 3. Dalih SA dan Osutiarna. 1978. <i>Petunjuk Pekerjaan Kayu I</i>. Depdikbud Direktorat Pendidikan Menengah Kejuruan : Jakarta. 4. Daryanto. 2010. <i>Keterampilan kejuruan konstruksi kayu</i>. PT sarana tutorial Nurani Sejahtera : Bandung. 5. Dira Atmaja. 1985. <i>Teori dan praktek kerja kayu edisi ke-empat</i>. Erlangga : Jakarta. 6. Dodong Budiyanto. 1995. <i>Mesin tangan Industri kayu</i>. Pika : Semarang. 7. Felix Yap. 1984. <i>Konstruksi kayu</i>. Bina Cipta : Bandung. 8. Heinz Frick. 1986. <i>Ilmu konstruksi bangunan kayu</i>. Kanisius : Yogyakarta. 9. John Stefford and Guy Mc murd. 1989. <i>Teknologi Kerja kayu</i>. Erlangga : Jakarta. 10. Lerch. 1995. <i>Pengerjaan kayu secara maksimal</i>. Pika : Semarang. 11. Primiyono. 1979. <i>Teknologi kayu buatan bergambar</i>. Tara karya aksara : Jakarta. 12. Rahmat Daryudi. 1997. <i>Mesin statis pengerjaan Kayu</i>. TEDC : Bandung. 13. Ross C. Cramlet. 1995. <i>Woodwork Visualized</i>. The United States Of America : USA. <p>Proponent (RP)</p>	
Learning Media	Software:	Hardware:
		Komputer, LCD Projector dan Papan tulis dan perangkatnya
Team Teaching	Drs. Revian Body, MSA ; Dr. Rijal Abdullah, M.T.; Prof. Dr. M. Giatman, MSIE. ; Rizky Indra Utama, ST., MT., M.Pd.T.	
Assessment	Tugas mandiri & kelompok	
Requirements Subject	none	

LESSON MATERIAL

Weeks	Competence to be achieved	Study Materials	Learning Methods and Strategies	Assignments / task	Assessment Criteria/ Indicators	Reference
(1)	CPMK 1 1. Have an understanding of the use, function and	Woodworking hand tools	Lecture, Demonstration, Question and Answer, practice.	Job 1 : Maintenance (sharpening) as well as techniques for	Process 40 % Result 60 %	RU No. 2 No. 3

Weeks	Competence to be achieved	Study Materials	Learning Methods and Strategies	Assignments / task	Assessment Criteria/ Indicators	Reference
	<p>maintenance of various woodworking tools</p> <p>2. Able to operate wooden handwork tools (use and care techniques)</p> <p>3. Able to apply health and safety at work to the learning process</p>			using and assembling woodworking hand tools, saws, chisels, and crabs		No. 9 No. 11
(2)	<p>CPMK 2</p> <p>1. Have an understanding of the various kinds of connections and wooden relationships.</p> <p>2. Can distinguish types of connections based on their function</p>	Wooden Connection	Lecture, Question and Answer.	handout kinds of wooden joints	Attitude Knowledge	RU No. 4 No. 7 No. 8 No. 9
(3)	<p>CPMK 3</p> <p>1. Have an understanding and be able to master two-sided spinning techniques and practice them</p> <p>2. Having the understanding and being able to practice the skill of making bird tail joints.</p> <p>3. Able to apply occupational health and safety to the learning process</p>	Double-sided tapping, Wooden joint.	Lecture, Demonstration, Question and Answer, practice.	<p>Job 2 :</p> <p>1. Double-sided tapping</p> <p>2. Bird's Tail Connection</p>	Process 40 % Result 60 %	
(4)	<p>CPMK 3</p> <p>1. Have an understanding</p>	Wooden joint	Lecture, Demonstration, Question and Answer,	Job 3 : Pen and Hole	Process 40 % Result 60 %	

Weeks	Competence to be achieved	Study Materials	Learning Methods and Strategies	Assignments / task	Assessment Criteria/ Indicators	Reference
	and can practice the skills of making pen and hole joints. 2. Able to apply K3 in the learning process		practice.	Connection		
(5)	CPMK 4 1. Have an understanding of the function and maintenance of each wood machine 2. Able to operate wood machinery according to its function 3. Able to apply health and safety to work in the learning proce	Woodworking machines	Lecture, Demonstration, Question and Answer, practice.	Use of wood machines	Process 100%	RU No. 1 No. 3 No. 6 No. 10 No. 12 No. 13
(6)	CPMK 5 1. 1. Have an understanding of the ventilation coils 2. 2. Able to plan and calculate the requirements for making ventilation coils. 3. 3. Able to paint workpieces using appropriate equipment 4. 4. Able to apply occupational health and safety to the learning process	Ventilation Frames	Lecture, Demonstration, Question and Answer, practice.	Job 4 : Ventilation Frames	Process 40 % Result 60 %	RU No.3 No. 6 No. 10 No. 12 No. 13
(7)	CPMK 5 1. 1. Able to make	Ventilation Frames	Lecture, Demonstration, Question and Answer,	Job 4 : Ventilation Frames	Process 40 % Result 60 %	

Weeks	Competence to be achieved	Study Materials	Learning Methods and Strategies	Assignments / task	Assessment Criteria/ Indicators	Reference
	connections / connections for ventilation sills 2. 2. Able to apply occupational health and safety to the learning process		practice.			
(8)	CPMK 5 1. Able to assemble ventilation frame wood connections/connection s according to standard 2. Able to apply occupational health and safety to the learning process	Ventilation Frames	Lecture, Demonstration, Question and Answer, practice.	Job 4 : Ventilation Frames	Process 40 % Result 60 %	RU No.3 No. 6 No. 10 No. 12 No. 13
(9)	CPMK 6 1. Have an understanding of the part, function, and size of a single door frame 2. Able to plan a single door frame 3. Able to paint single door frame workpieces	single door frame workpieces	Lecture, Demonstration, Question and Answer, practice.	Job 5 : single door frame workpieces	Process 40 % Result 60 %	RU No.3 No. 6 No. 10 No. 12 No. 13
(10)	CPMK 6 1. Able to make a single door frame connection 2. Able to apply occupational health and safety to the	single door frame workpieces	Lecture, Demonstration, Question and Answer, practice.	Job 5 : single door frame workpieces	Process 40 % Result 60 %	RU No.3 No. 6 No. 10 No. 12 No. 13

Weeks	Competence to be achieved	Study Materials	Learning Methods and Strategies	Assignments / task	Assessment Criteria/ Indicators	Reference
	learning process					
(11)	CPMK 6 1. Able to assemble a single door frame (finishing) 2. Able to apply occupational health and safety to the learning process	single door frame workpieces	Lecture, Demonstration, Question and Answer, practice.	Job 5 : single door frame workpieces	Process 40 % Result 60 %	RU No.3 No. 6 No. 10 No. 12 No. 13
(12)	CPMK 7 1. Have an understanding of the part, function, and size of the panel door 2. Able to plan the manufacture of panel doors	Panel doors	Lecture, Demonstration, Question and Answer, practice.	Job 6 : Panel doors	Process 40 % Result 60 %	RU No.3 No. 6 No. 10 No. 12 No. 13
(13)	CPMK 7 1. Able to paint panel door workpieces 2. Able to apply occupational health and safety to the learning process	Panel doors	Lecture, Demonstration, Question and Answer, practice.	Job 6 : Panel doors	Process 40 % Result 60 %	RU No.3 No. 6 No. 10 No. 12 No. 13
(14)	CPMK 7 1. Capable of making panel door joints 2. Able to apply occupational health and safety to the learning process	Panel doors		Job 6 : Panel doors	Process 40 % Result 60 %	RU No.3 No. 6 No. 10 No. 12 No. 13
(15)	CPMK 7 1. Capable of assembling panel door	Panel doors	Lecture, Demonstration, Question and Answer, practice.	Job 6 : Panel doors	Process 40 % Result 60 %	RU No.3 No. 6

Weeks	Competence to be achieved	Study Materials	Learning Methods and Strategies	Assignments / task	Assessment Criteria/ Indicators	Rreference
	joints 2. Able to apply occupational health and safety to the learning process					No. 10 No. 12 No. 13
(16)	CPMK 7 Able to finish making panel doors: 1. Scrubbing 2. puttying 3. Painting	Panel doors	Lecture, Demonstration, Question and Answer, practice.	Job 6 : Panel doors	Process 40 % Result 60 %	RU No.3 No. 6 No. 10 No. 12 No. 13

Catatan :

Keterkaitan CPMK dengan CPL dan Metode Assesment

CPMK	Assesment	Bobot (%)	CPL-1			CPL-2				CPL-3				CPL-4			CPL-5			CPL-6			
			1	2	3	1	2	3	4	1	2	3	4	1	2	3	1	2	3	1	2	3	
1	Job 1	7																					
2	Makalah	3																					
3	Job 2	15																					
3	Job3	10																					
4	Praktek Mesin	10																					
5	Job 4	15																					
6	Job 5	15																					
7	Job 6	15																					
Kehadiran		10																					
TOTAL		100																					

Komponen Penilaian

Job 1

: 7 %

Job 2	: 15 %
Job 3	: 15 %
Job 4	: 20 %
Job 5	: 20 %
Makalah	: 3 %
Praktek Mesin	: 10 %
Kehadiran	: 10 %
Total	: 100 %

Deskripsi Tingkat Penilaian

	Excellent	Good	Satisfy	Fail
Deskripsi	90-100	70-89	51-69	>50
Formulasi	90-100	70-89	51-69	>50
Menghitung	90-100	70-89	51-69	>50
Analisis	90-100	70-89	51-69	>50
Praktik	90-100	70-89	51-69	>50

Sistem Penilaian

Nilai Angka	Nilai Mutu	Angka Mutu	Sebutan Mutu	Nilai Angka	Nilai Mutu	Angka Mutu	Sebutan Mutu
85 – 100	A	4.0	Dengan pujian	55 – 59	C	2.0	Cukup
80 – 84	A-	3.6	Sangat baik sekali	50 – 54	C-	1.6	Kurang cukup
75 – 79	B+	3.3	Baik sekali	40 – 49	D	1.0	Kurang
70 – 74	B	3.0	Baik	≤ 39	E	0.0	Gagal
65 – 69	B-	2.6	Cukup Baik	-	T	-	Tertunda
60 – 64	C+	2.3	Lebih dari cukup				



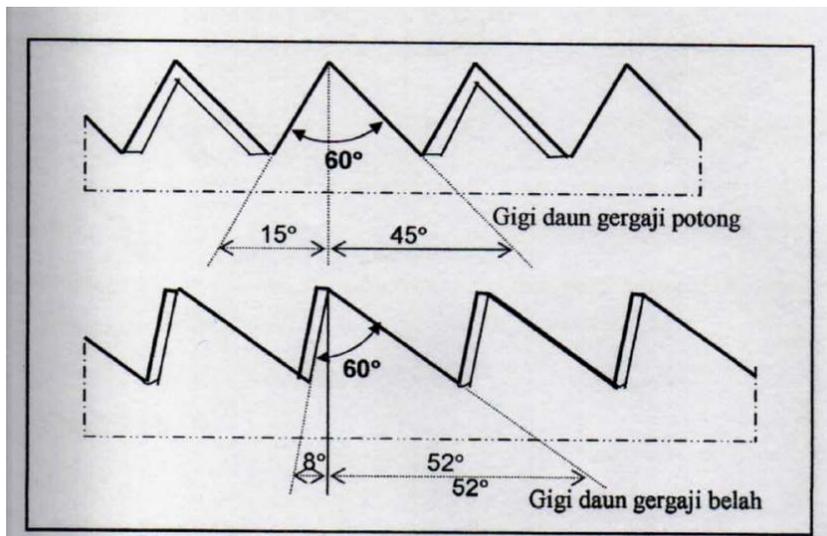
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**GAMBAR KERJA
JOB 1**

Matakuliah : Praktek Kerja Kayu
Kode / SKS : SIP1.61.3301 / 4 SKS
Sifat Ujian : Praktikum
Dosen : Fani Keprila Prima, S.Pd., M.Pd.T.
Waktu : 2 x 4 x 50menit
Bobot nilai maksimal : 100

PENGASAHAN GERGAJI



PENGASAHAN MATA PAHAT

PENGASAHAN MATA KETAM



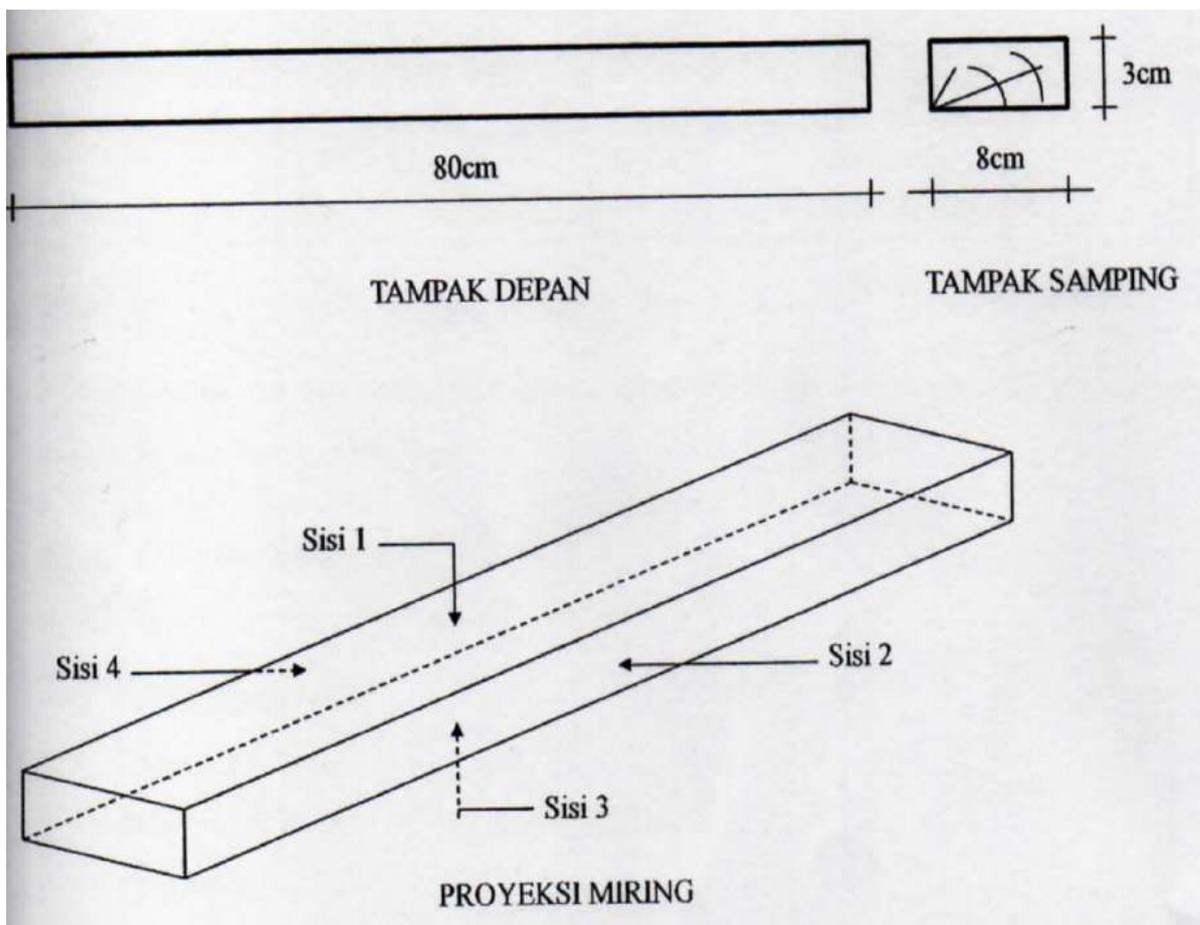
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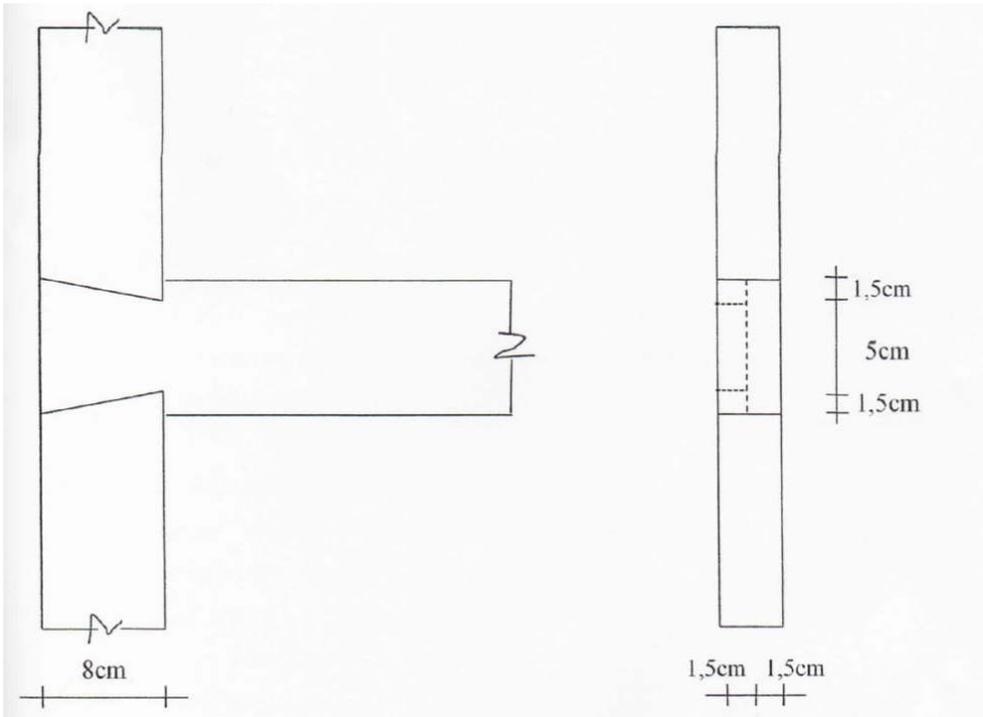
GAMBAR KERJA
JOB 2

Matakuliah : Praktek Kerja Kayu
Kode / SKS : SIP1.61.3301 / 4 SKS
Sifat Ujian : Praktikum
Dosen : Fani Keprila Prima, S.Pd., M.Pd.T.
Waktu : 2 x 4 x 50menit
Bobot nilai maksimal : 100

PENGETAMAN DUA SISI

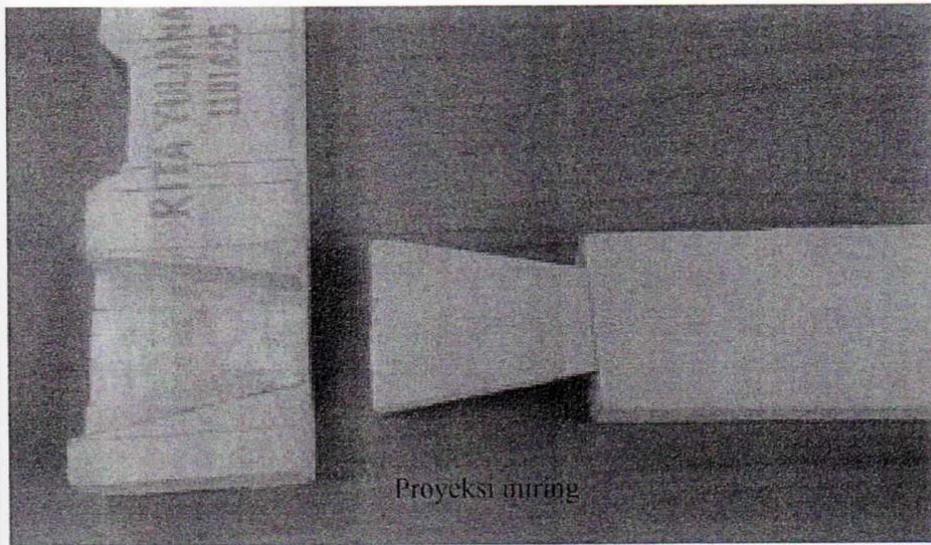


SAMBUNGAN EKOR BURUNG



TAMPAK DEPAN

TAMPAK SAMPIING



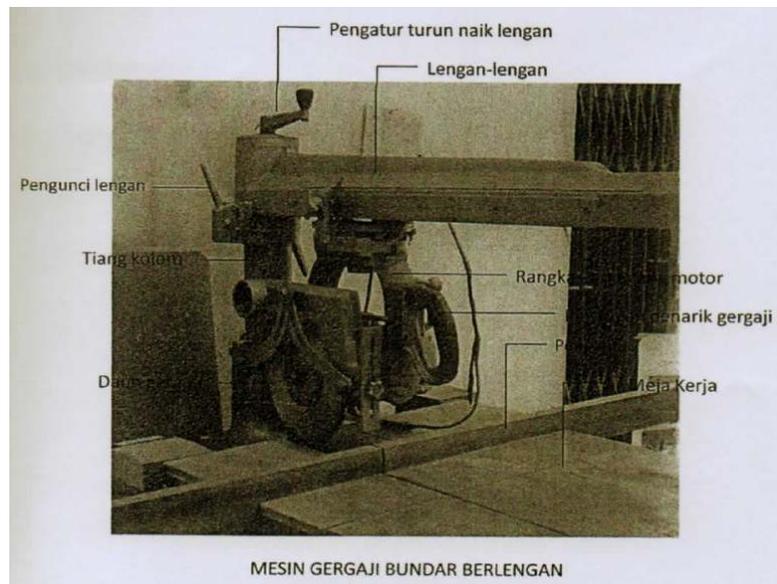


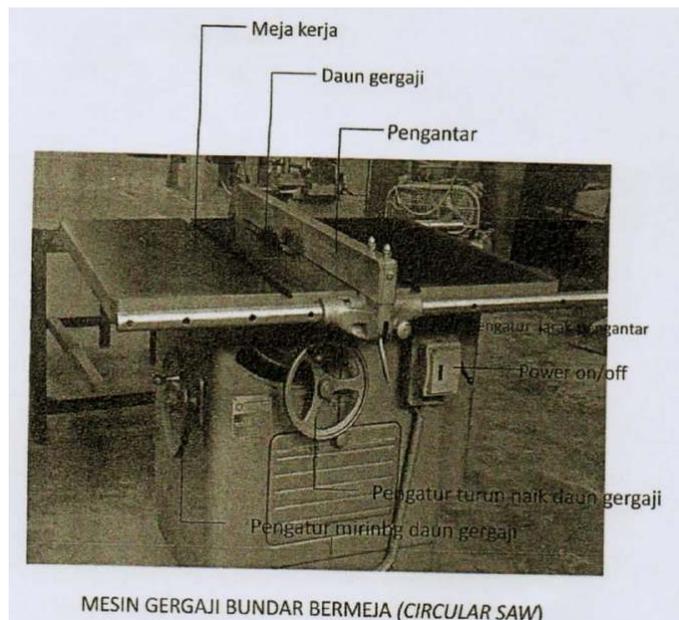
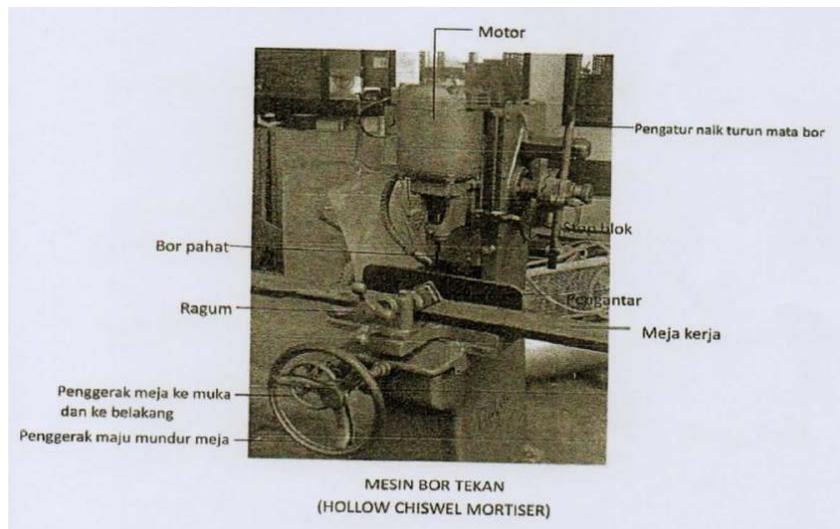
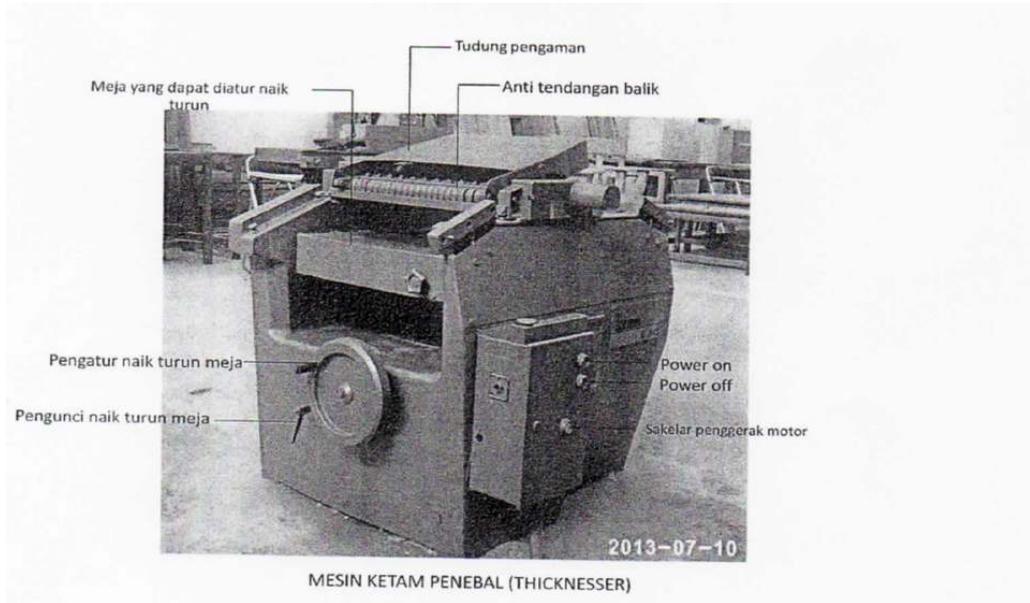
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GAMBAR KERJA
PENGGUNAAN MESIN KAYU

Matakuliah : Praktek Kerja Kayu
Kode / SKS : SIP1.61.3301 / 4 SKS
Sifat Ujian : Praktikum
Dosen : Fani Keprila Prima, S.Pd., M.Pd.T.
Waktu : 2 x 4 x 50menit
Bobot nilai maksimal : 100







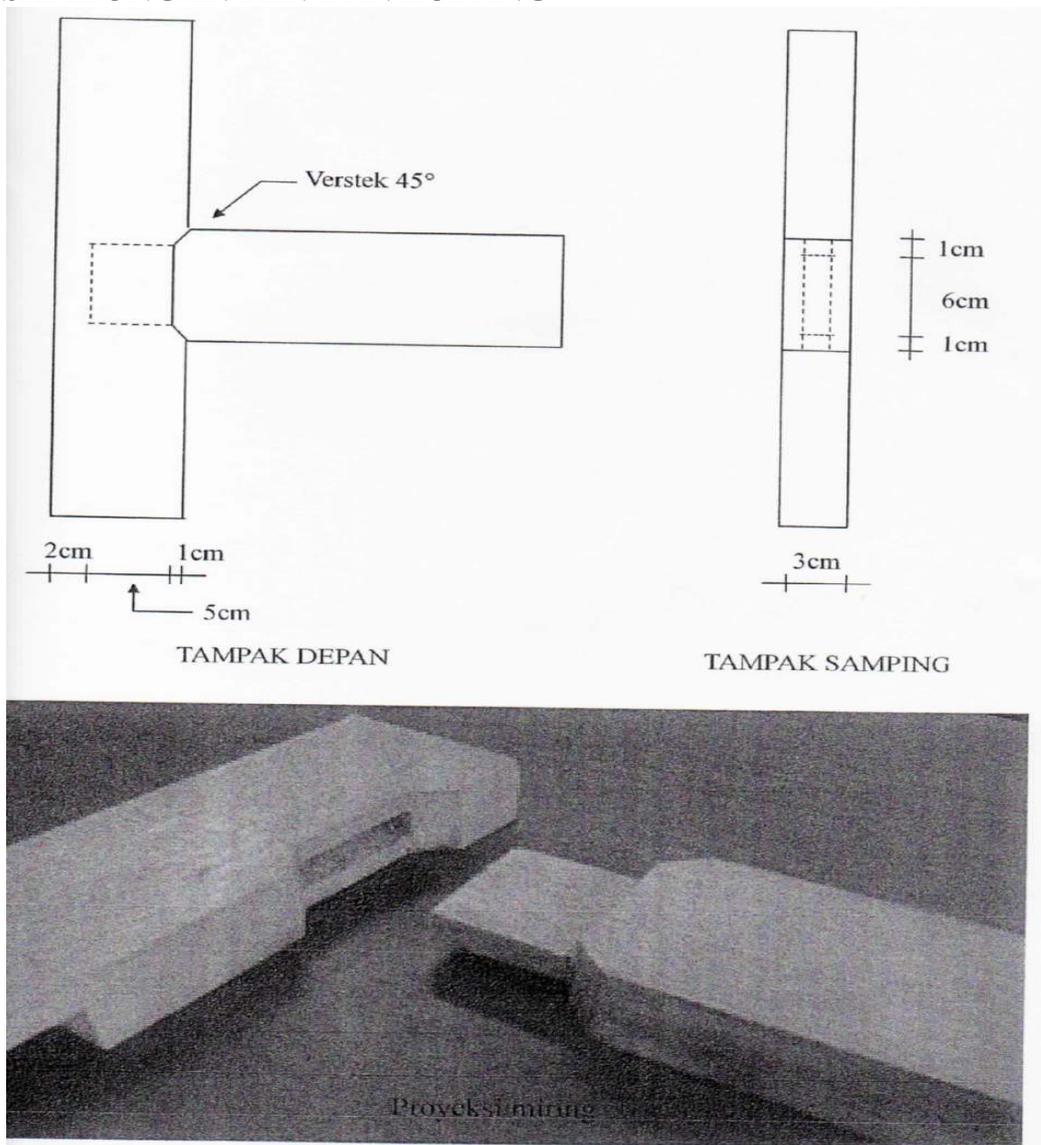
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GAMBAR KERJA
JOB 3

Matakuliah : Praktek Kerja Kayu
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Sifat Ujian : Praktikum
Dosen : Fani Keprila Prima, S.Pd., M.Pd.T.
Waktu : 2 x 4 x 50menit
Bobot nilai maksimal : 100

SAMBUNGAN PEN DAN LUBANG





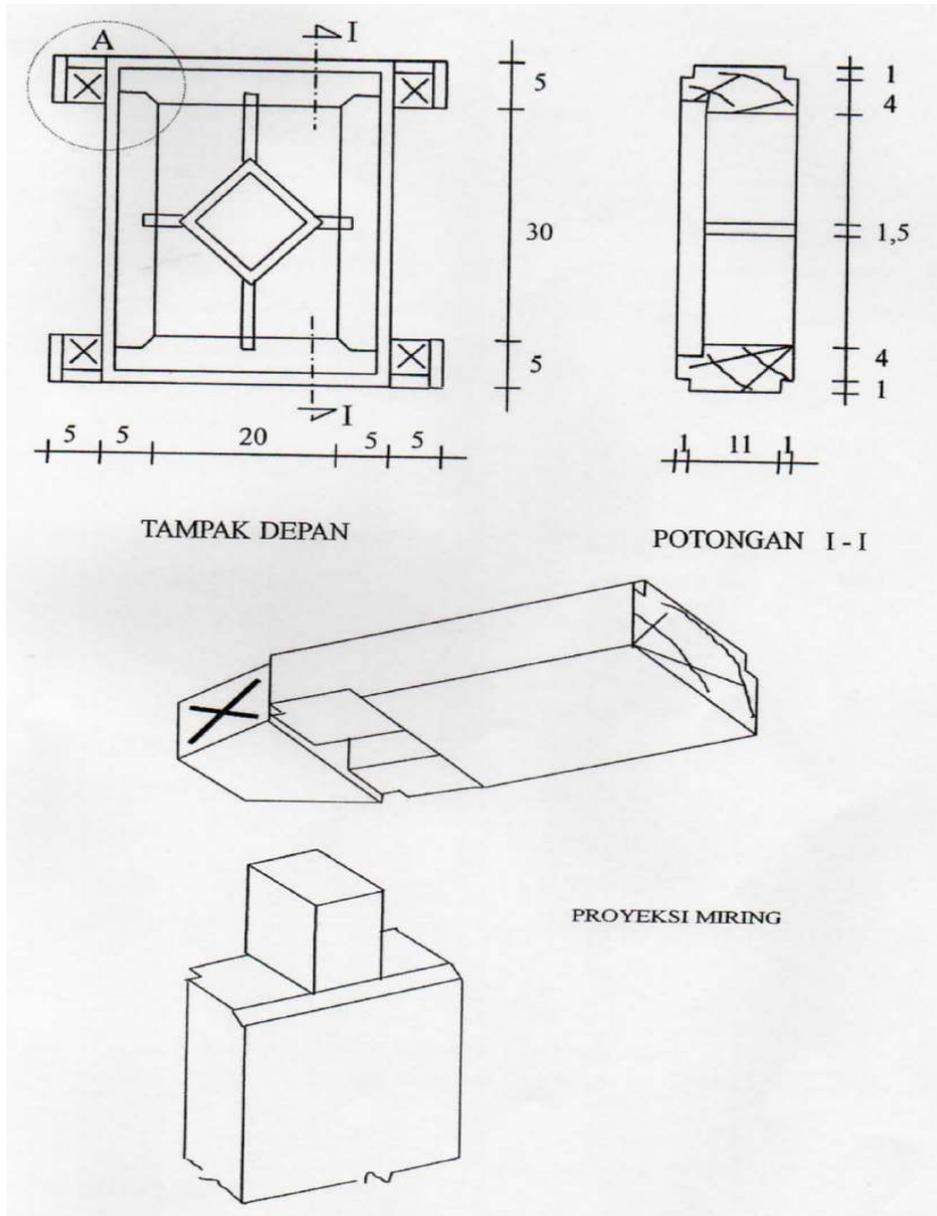
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GAMBAR KERJA
JOB 4

Matakuliah : Praktek Kerja Kayu
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Sifat Ujian : Praktikum
Dosen : Fani Keprila Prima, S.Pd., M.Pd.T.
Waktu : 2 x 4 x 50menit
Bobot nilai maksimal : 100

KOZEN VENTILASI





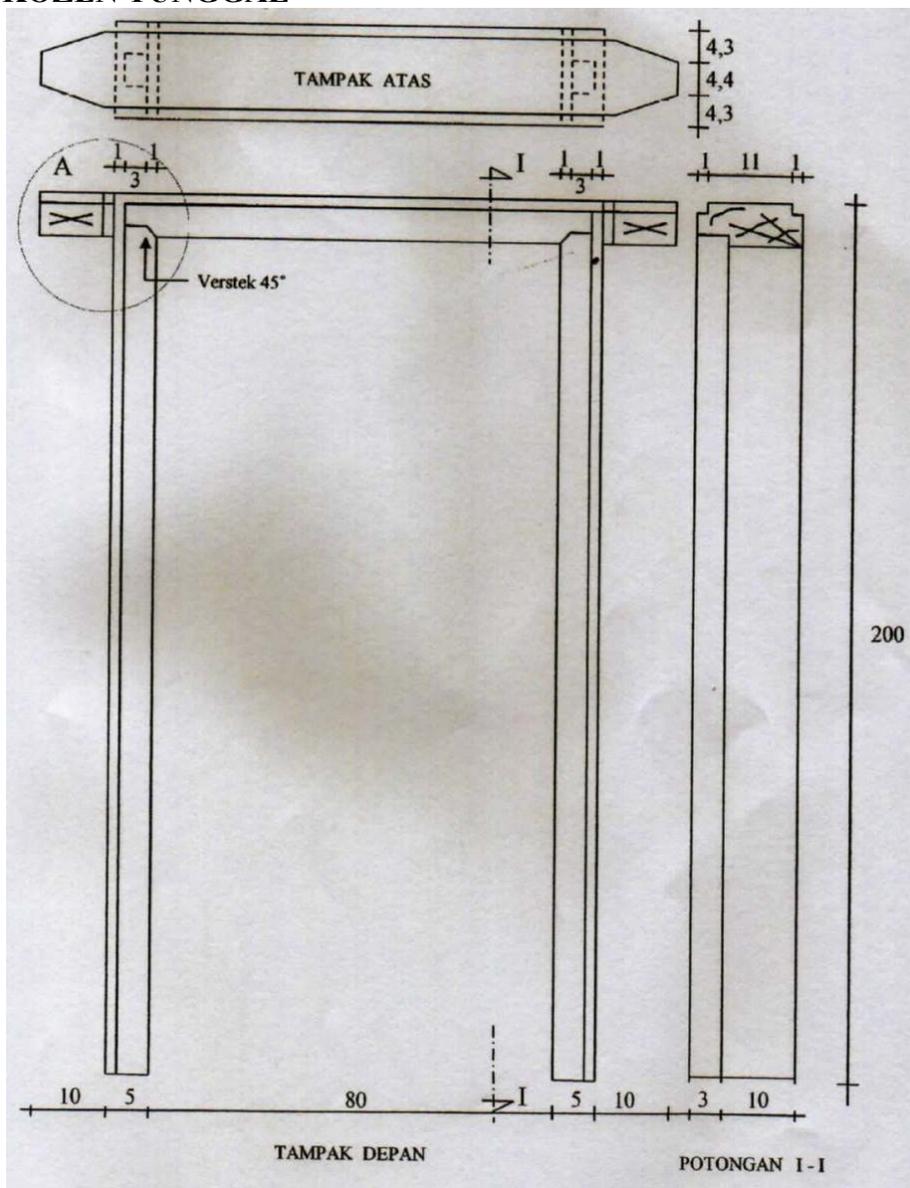
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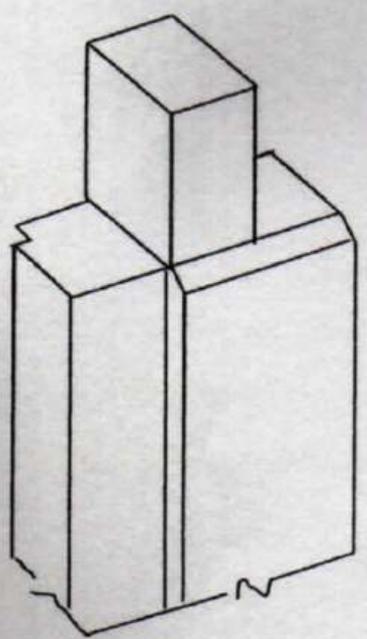
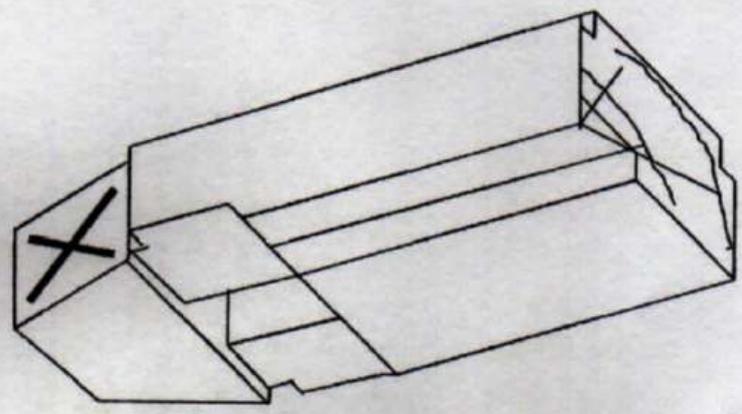
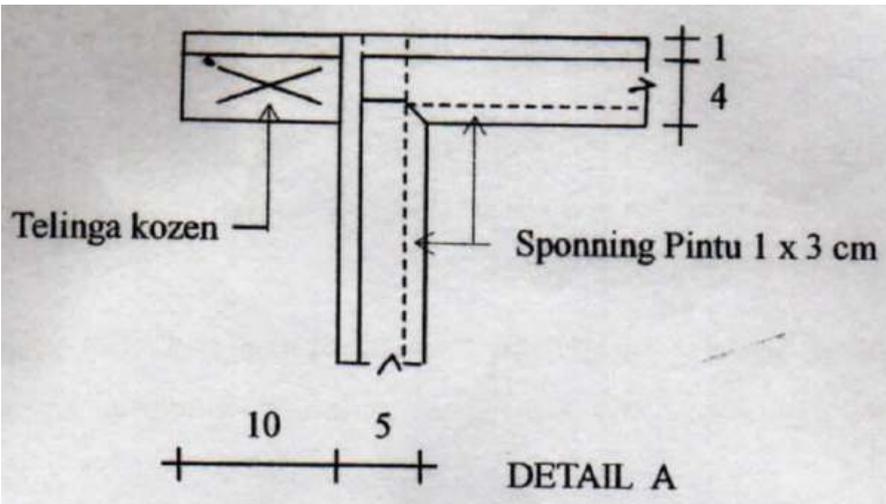
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**GAMBAR KERJA
JOB 5**

Matakuliah : Praktek Kerja Kayu
Kode / SKS : SIP1.61.3301 / 4 SKS
Sifat Ujian : Praktikum
Dosen : Fani Keprila Prima, S.Pd., M.Pd.T.
Waktu : 2 x 4 x 50menit
Bobot nilai maksimal : 100

KOZEN TUNGGAL





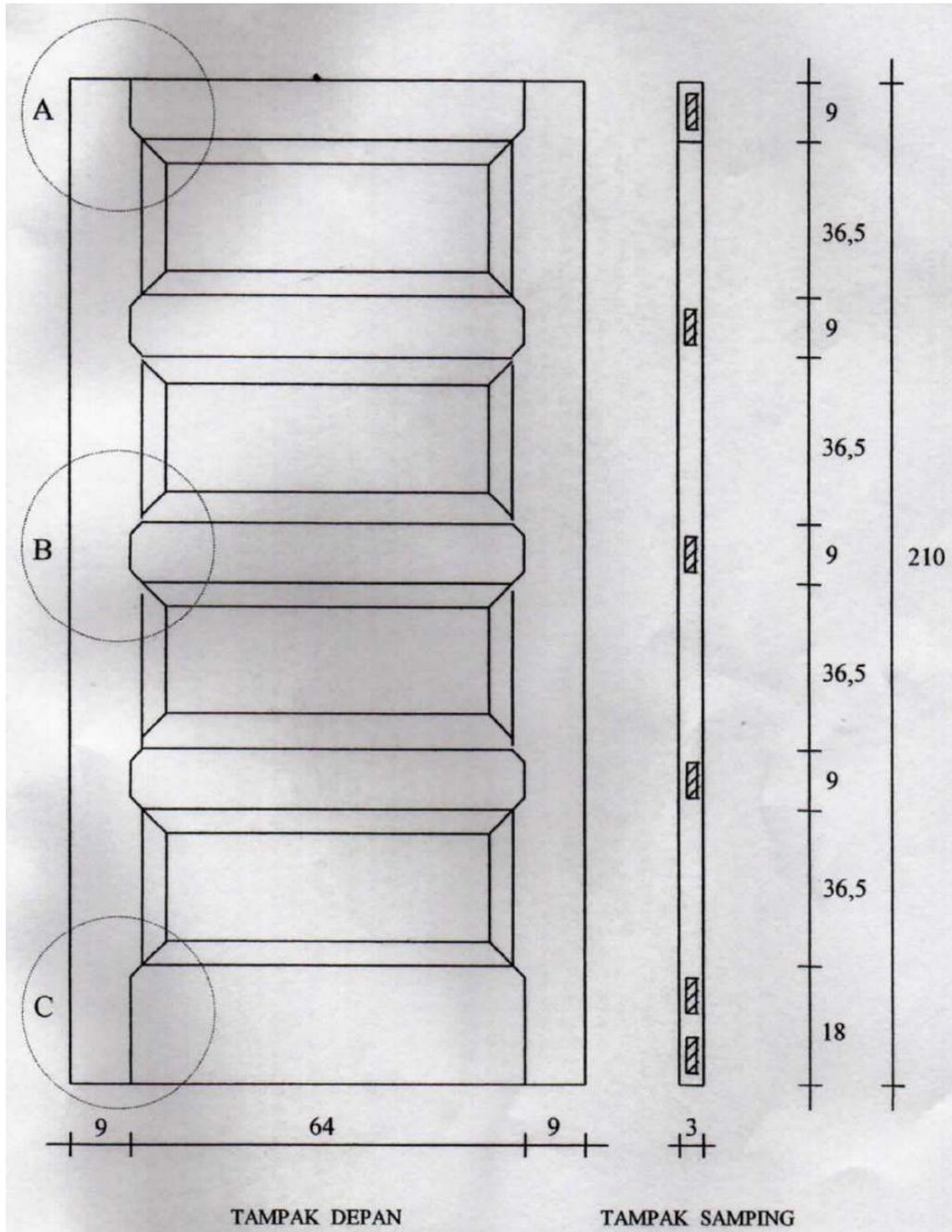


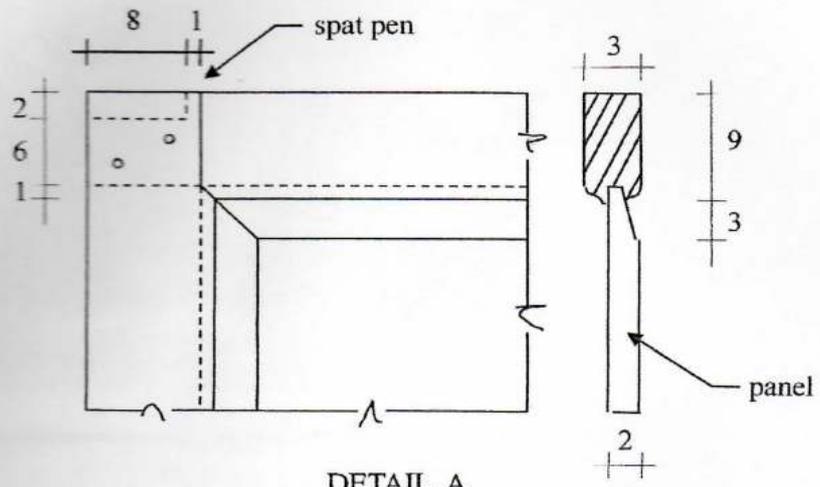
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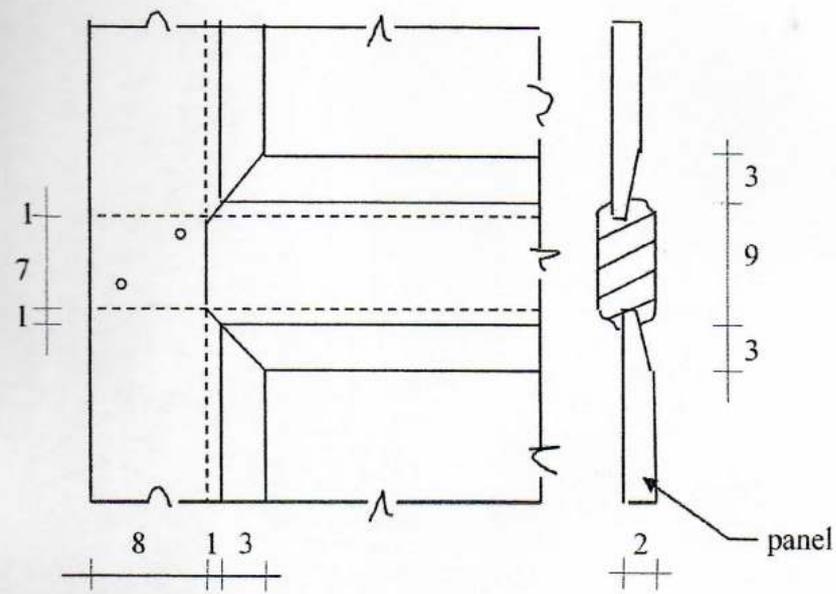
GAMBAR KERJA
JOB 6

PINTU PANEL

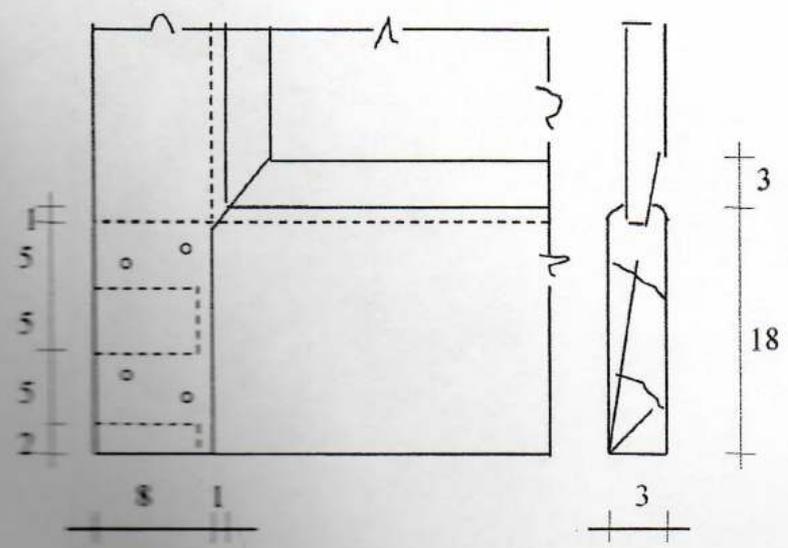




DETAIL A



DETAIL B



DETAIL C