

Wood joints

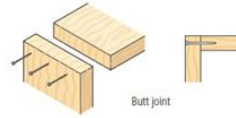
Advantages

- Give strength
- Long lasting
- Decorative
- Resist forces well
- Require skill – difficult to make
- Special tools needed

1

Butt joints

- Simple joints
- Need nails or screws
- Rebate will give strength
- Greater glue area



These joints are the most straightforward of all of the wood joints simply because they require no cutting out. All you need to do is ensure both ends are square and bring them up to each other at right angles as shown below and nail (and glue) the faces together. Notice that the nails have been driven in at an angle in a process called Dovetail Nailing. This is to give both parts more of a grip and help prevent the pieces from being pulled apart too easily.

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Butt joints – joining boards

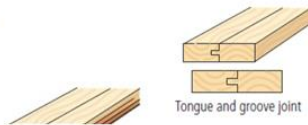
- Simple edge joints used for making wide boards
- Can be strengthened using biscuit joints or tongues
- Boards arranged with alternating end grain to prevent warping



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Edge joints

- Simple joints
- Join narrow boards together to make wider boards
- Strengthened with
 - Tongue & groove
 - Loose tongues

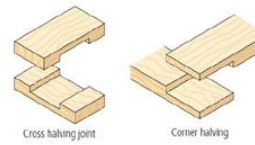


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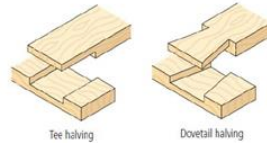
Halving joints

- The two halves of the joint make up the full thickness

- Uses
 - Frames
 - Rails



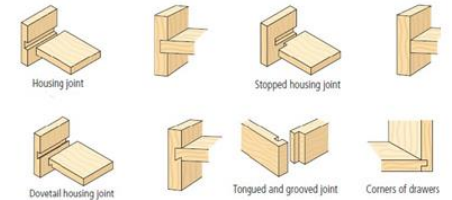
Corner halving



Dovetail halving

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Housing joints

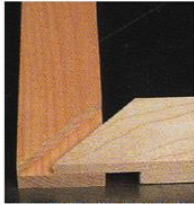
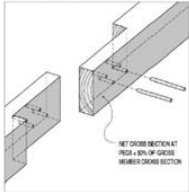


- Uses
 - Shelved units
 - Dividers for boxes

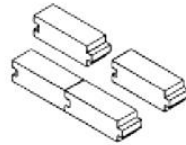
Housing Joints are most commonly used when a shelf is being fitted within a model. A groove is cut out of the side pieces at a certain height, wide enough for the shelf material to fit into. The shelf can then be glued and/or nailed in place.

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A lap joint is when two piece are cut on a dado and glued or nail together to create a stronger joint.







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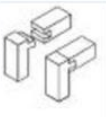
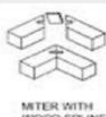
TONGUE AND GROOVE

T&G is a method of fitting similar objects together, edge to edge, used mainly with wood: flooring, parquetry, paneling, and similar constructions. Tongue and groove joints allow two flat pieces to be joined strongly together to make a single flat surface. The effect of wood shrinkage is concealed when the joint is beaded or otherwise moulded.



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Sr No	Type	Application	
1	BUTT JOINT	Generally in Furniture as relatively its weaker	
2	DOWELLED BUTT	The dowels inserted inside enables the joint to be used in excess load bearing units	
3	DADO	Used at T joints generally in connecting joists with pillars in a wooden construction house	
4	RABBET	Used at L junctions generally in furniture as the bonding surface area is less which disables higher load taking capacity	

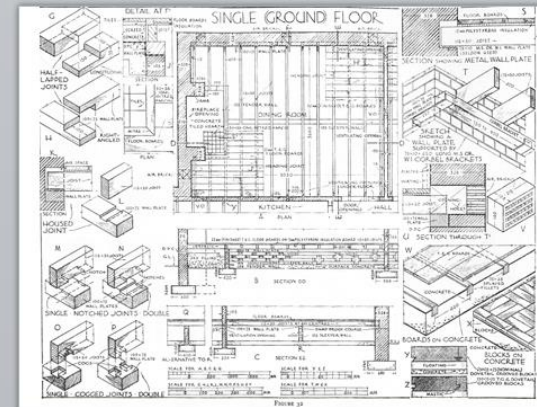
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Sr No	Type	Application	
4	DOVE TAIL	Used at L junctions generally in furniture As well as in house constructions; the higher sticking surface area enables it to take much more load	
5	MITRED WITH WOOD SPLINE	Used at L junctions but the Spline inserted inside makes it much rigid and tough that it can relatively take excess loads as compared to other joints	

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6	MORTICE AND TENON	Used at T joints generally in FURNITURES as the tenon makes the bond so rigid that the joint can take much higher loads and makes the furniture much more durable	
7	TONGUE AND GROOVE	Very common used joint as can be used in variable functions as straight joins and other types of the same	

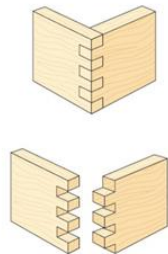
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Notes Page View
View the Notes Page to edit the speaker notes as they'll look when you print them out.

- Large glue area
- Common joint
- Odd number of fingers
- Uses
 - Joining corners of frames and boxes
 - Cabinet construction

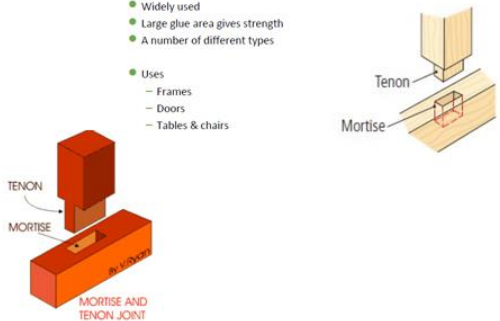


Finger Joint (sometimes called a comb joint), is created by accurately cutting out a series of steps on the ends of two pieces of wood. Alternate sections are then removed so that the two pieces fit together as shown here.

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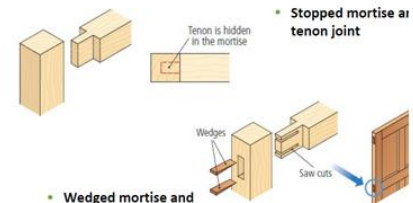
Mortise and tenon joints

- Widely used
- Large glue area gives strength
- A number of different types
- Uses
 - Frames
 - Doors
 - Tables & chairs



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Mortise and tenon joints

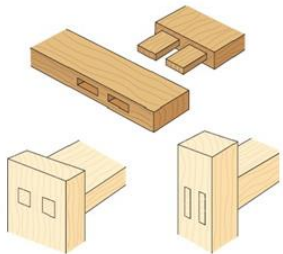


The mortise and tenon joint is one of the strongest wood joints.
 • Mortise and tenon joint is normally formed by cutting a square tongue (the tenon) on the end of one piece of wood and an equal size square hole or slot (the mortise) in another.

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Mortise and tenon joints

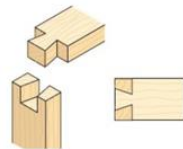
- Twin mortise and tenon joint
 - Greater glue area and a stronger joint
 - Used when a wide tenon could become loose with shrinkage



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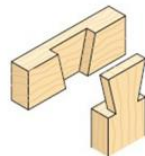
Dovetail joints

- Single through dovetail joint
 - Corners of boxes
 - Where rails meet legs
- Uses



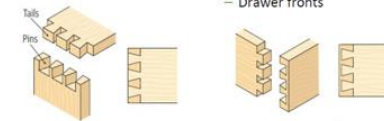
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- Tee dovetail halving joint



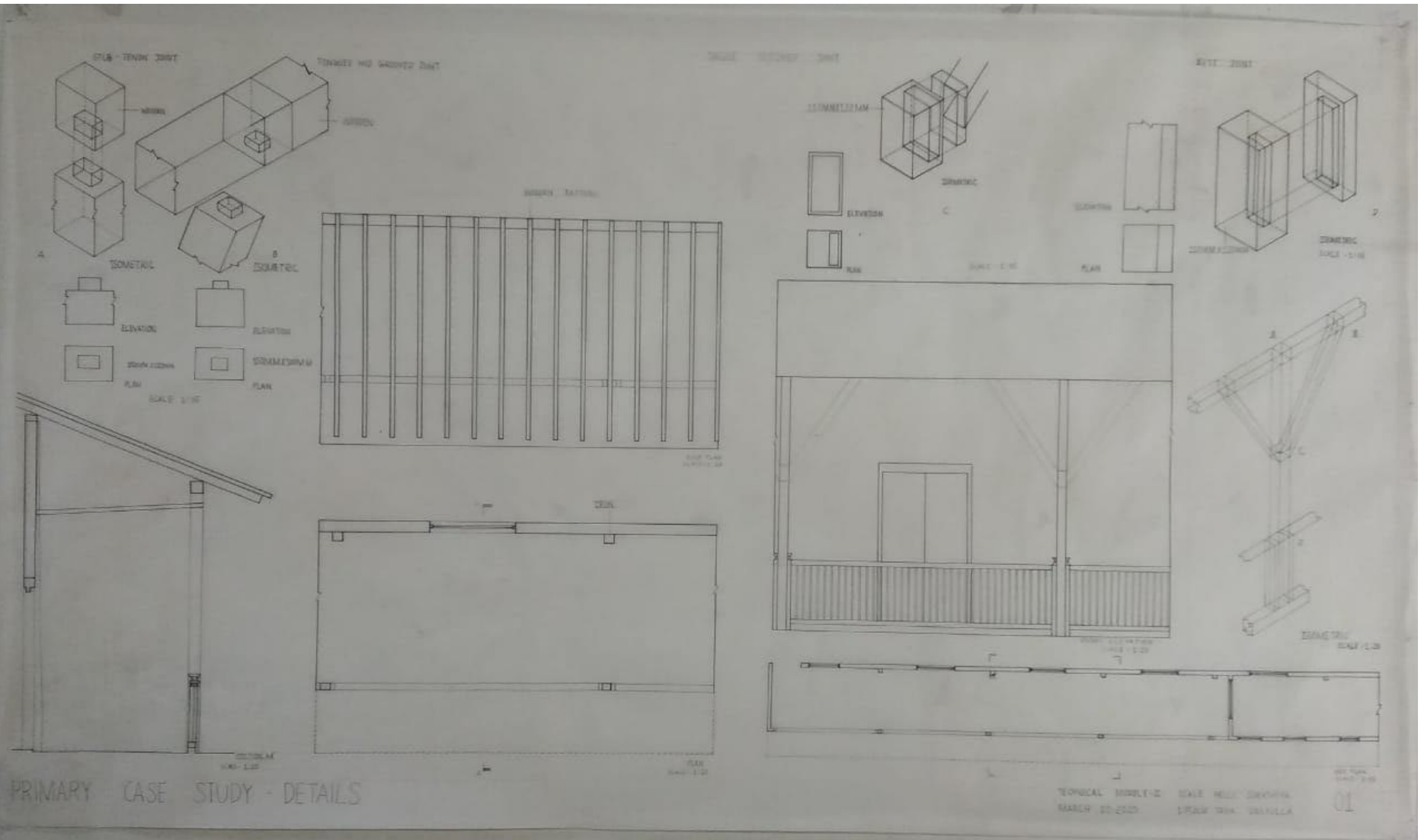
Dovetail joints

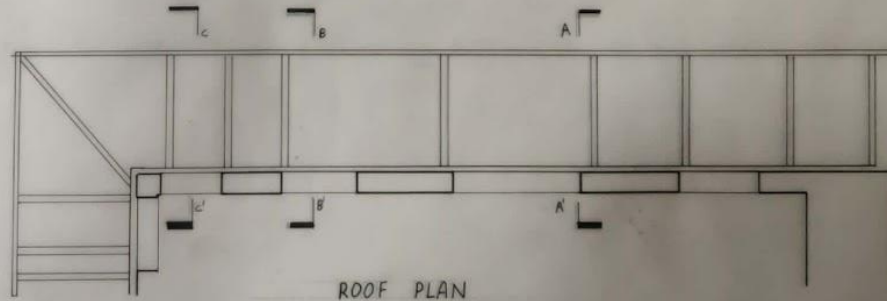
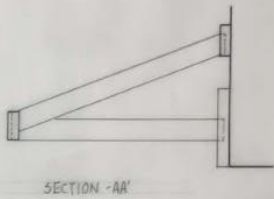
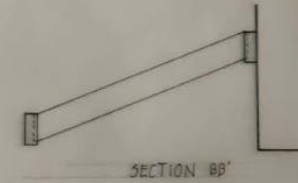
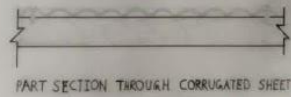
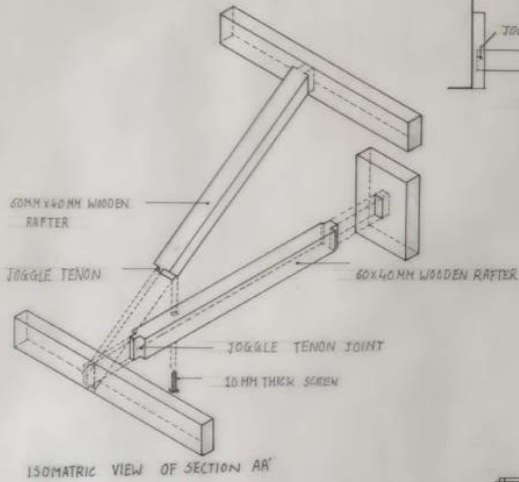
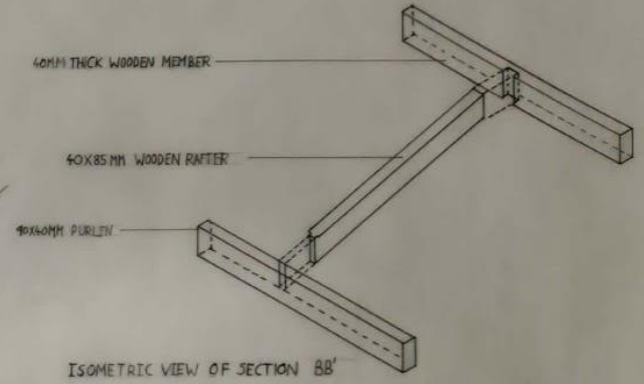
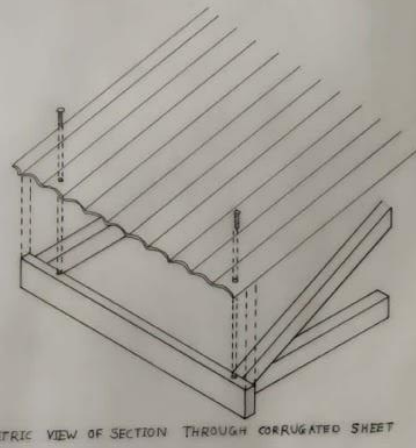
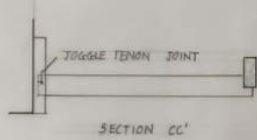
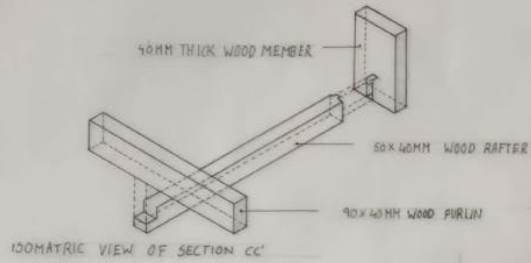
- Through dovetail joint
 - Uses
 - Box carcasses
 - Drawer carcasses
- Lapped dovetail joint
 - Used
 - Where strength is needed, but the front end grain of the tails has to be hidden
 - Drawer fronts



The 'DOVETAIL JOINT' is very strong because of the way the 'tails' and 'pins' are shaped. This makes it difficult to pull the joint apart and virtually impossible when glue is added. This type of joint is used in box constructions such as drawers, jewellery boxes, cabinets and other pieces of furniture where strength is required. It is a difficult joint which requires practice. There are different types of dovetail joint and when cut accurately they can be very impressive.

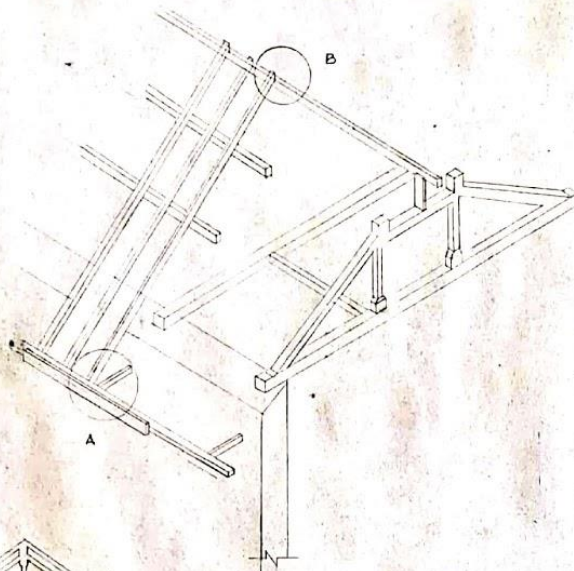
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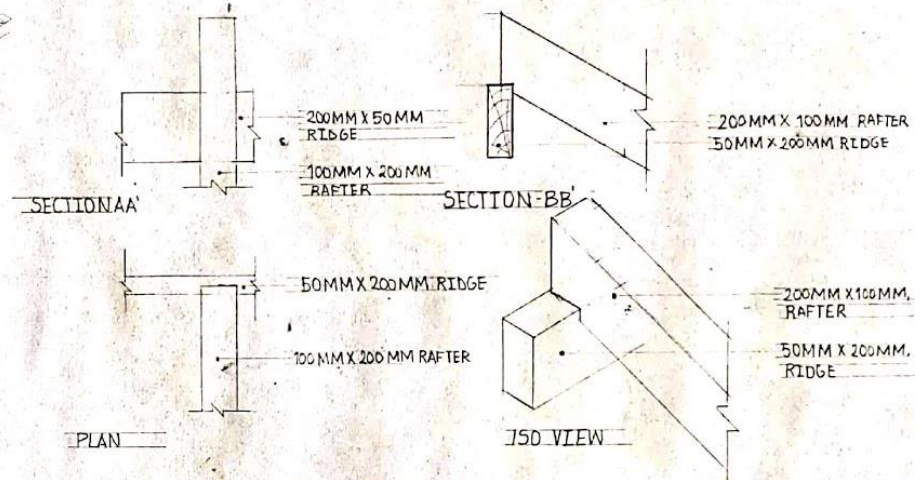


PRIMARY CASE STUDY - PLAN AND DETAILS

TECHNICAL DRAWING - 2 SCALE: 1/1000
FEBRUARY 23 2021 MALAY 2021

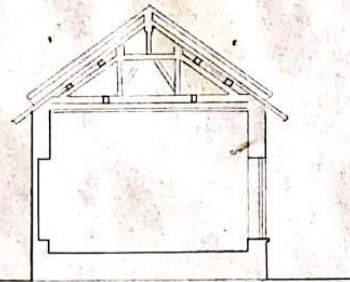


I50 ROOF

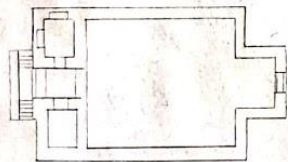


PLAN

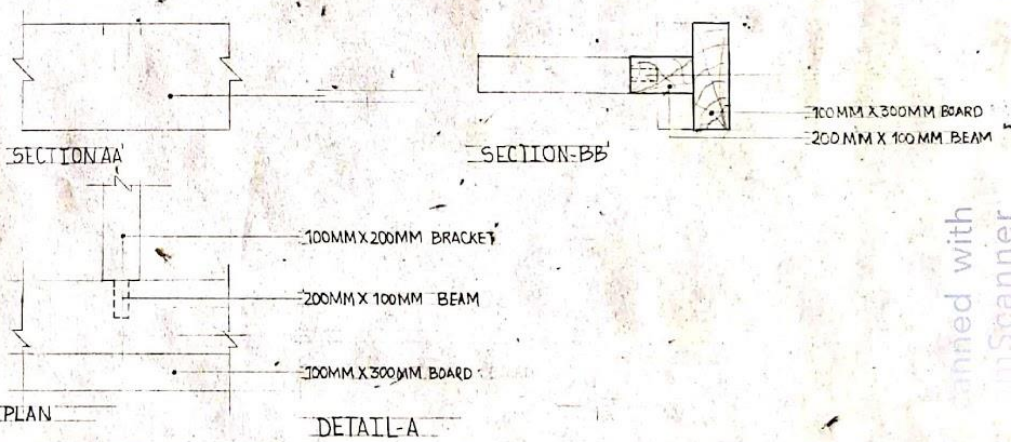
ISO VIEW



SECTION



PLAN



SECTION AA'

SECTION BB'

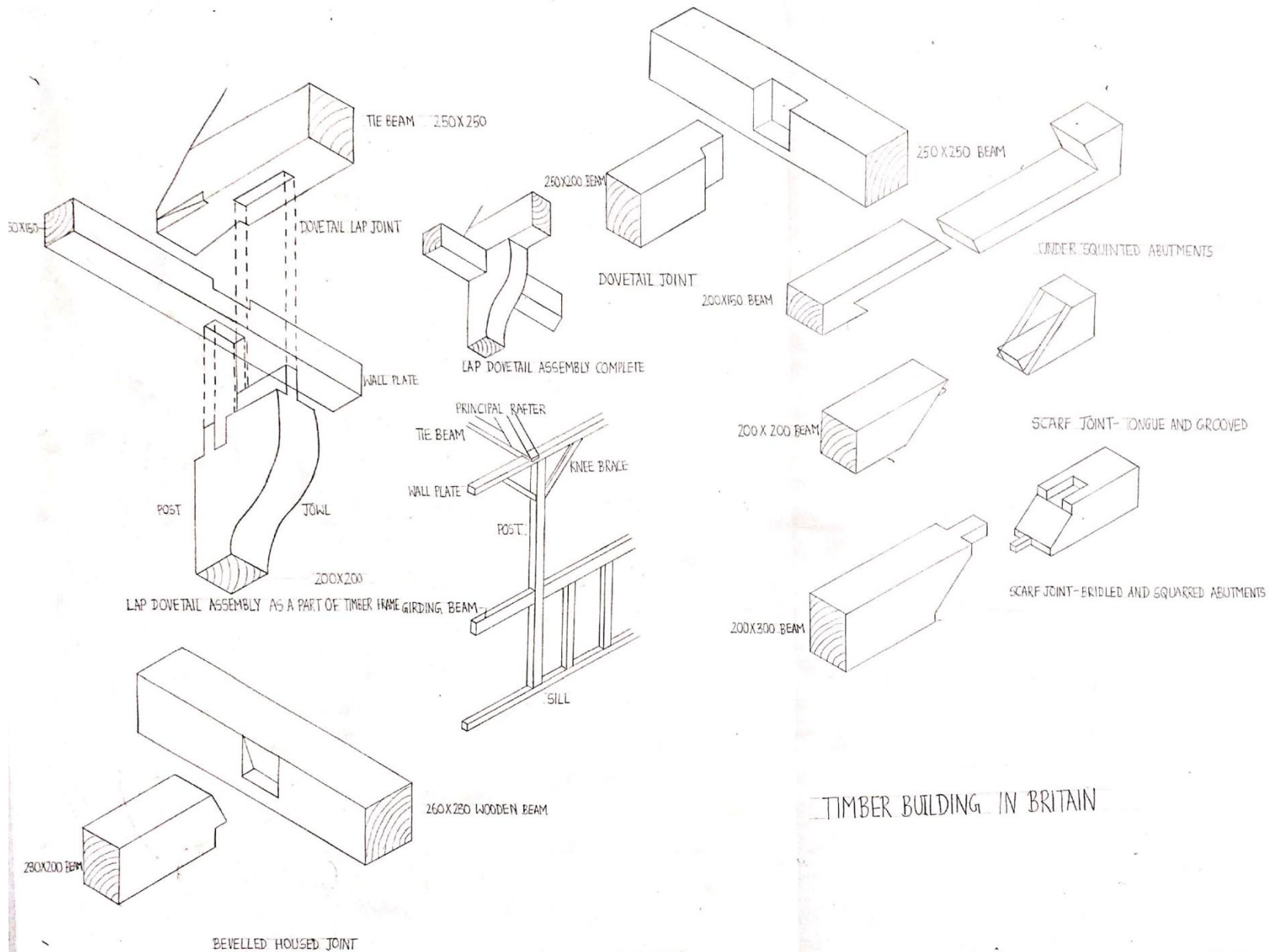
DETAIL-A

PLAN

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SECONDARY CASE STUDY

TECHNICAL MODULE -2	SCALE	RASHI KHODE	03
MARCH 26, 20	1:100 AND 1:10	MUSKAN JASMATIA	

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TIMBER BUILDING IN BRITAIN

SECONDARY CASE STUDY-DETAIL A

TECHNICAL MODULE-II	SCALE	TAHA V
MARCH 26 2020	1:10	HELL E

TOPICS COVERED

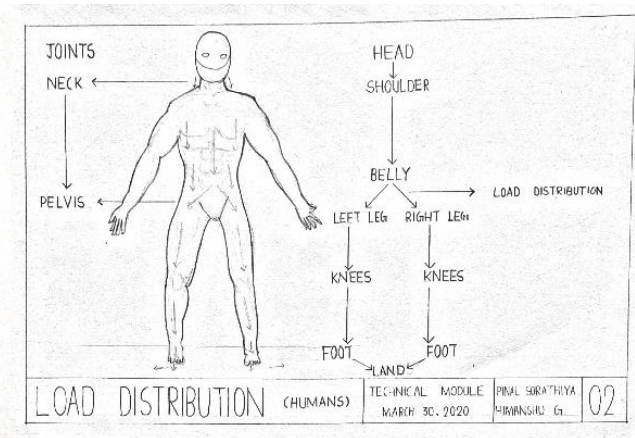
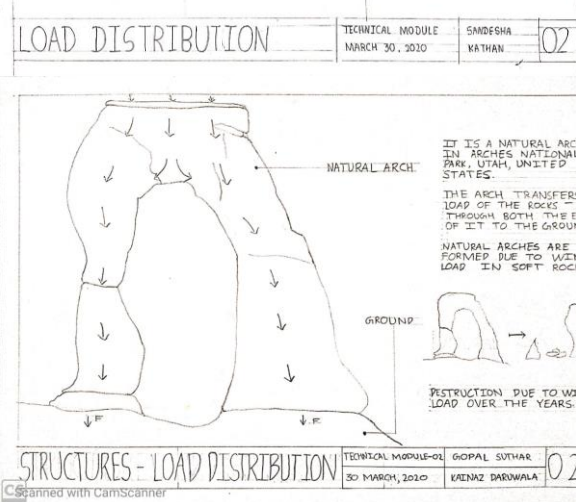
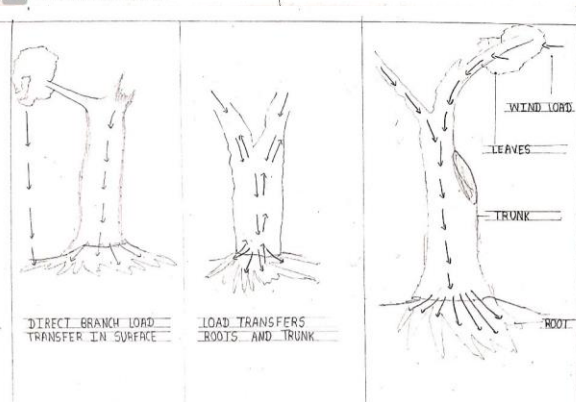
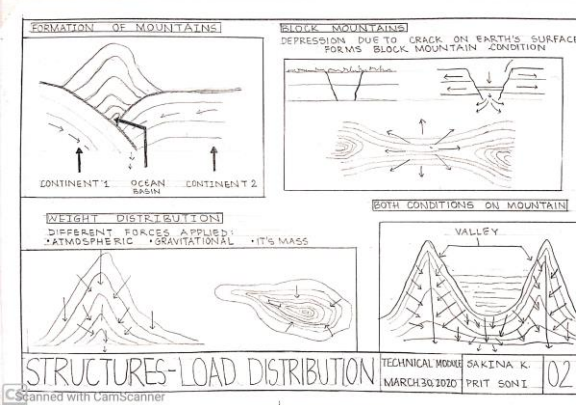
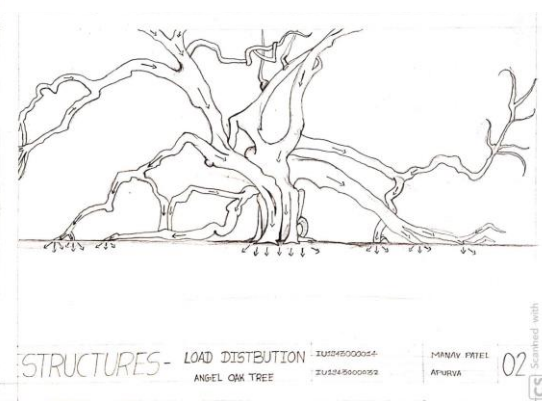
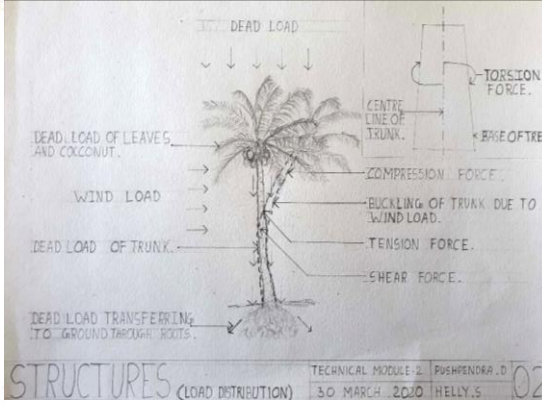
- **Load**
 1. Types of Loads
 2. Transfer of load through different materials
 - **Equilibrium of Forces**
 - **Structural System**
 3. Types of Structural Systems.
 4. Elements of Structural Systems
 - **Acting Forces and Free Body Diagrams.**
 - **Types of Supports:** Pin, Roller, Fixed.
 5. Diagrams
 6. Analysis of Types on Supports in nature, daily life.

ASSIGNMENT ONE: LOAD CALCULATION

- Students shall choose public building such as hospitals, shops, schools, offices where one can find variety of loads- (Live load – Dead load)
- Sketch the plan with basic dimensions of the area and the furniture
- Calculate all the loads acting in the chosen area throughout the day.
- Students shall learn load calculation.

Assignment 02: Load Distribution

- The exercise was based on types on loads and the components involved in the transfer of load, ultimately to the ground.
- Different types of objects/ elements such as caves, trees, the human body, etc., were taken as examples and the order of load transfer was analyzed and represented in the form of diagrams.
- These assignments were then individually discussed over a Zoom Meeting in order to make sure students are well-versed with types of Load Distribution and its Order.



Assignment 03: Free body diagrams

- Identify objects in everyday life and make analytical Free Body Diagrams, showing the acting and resulting forces in each case.
- These assignments were then individually discussed over a Zoom Meeting in order to make sure students are well-versed with all possibilities of acting forces.

ISOMETRIC VIEW	SIDE VIEW	FREE BODY DIAGRAM	No.	ISOMETRIC VIEW	SIDE ELEVATION	FREE BODY DIAGRAM
			6.			
			7.			
			8.			
			9.			

STRUCTURES (FREE BODY DIAGRAM) TECHNICAL MODULE - 2 PUSHPENDRA DUDHAT A 03 CS SUPPORT & REACTION 11th APRIL 2020

SKETCH	FREE BODY DIAGRAM	SKETCH	FREE BODY DIAGRAM

STRUCTURES-FBD TECHNICAL-II SAKINA KAKAI 03 APRIL 11, 2020

ISOMETRIC VIEW	SIDE VIEW	FREE BODY DIAGRAM

STRUCTURES-FBD TECHNICAL MODULE - II GOHIL YOGRAJESH K. 03 SUPPORT AND REACTION 11th APRIL 2020

OBJECT NAME	OBJECT DIAGRAM	FREE BODY DIAGRAM - SUPPORT	FREE BODY DIAGRAM - REACTION
1. TABLE			
2. CHAIR			
3. CUPBOARD			
4. TREE TRUNK			
5. TROLLEY			
6. ROLLER SKATER			

STRUCTURES-FREE BODY DIAGRAM TECHNICAL MODULE KANAZ DARUWALLA 03 APRIL 11, 2020 TU454500002

SKETCH	FREE BODY DIAGRAM	SKETCH	FREE BODY DIAGRAM

STRUCTURES - FBD TECHNICAL MODULE - II MUSKAN QASMATIA 01 APRIL 11, 2020

1. FIXED SUPPORT	2. PINNED SUPPORT	3. ROLLER SUPPORT	4. FIXED SUPPORT	5. ROLLER SUPPORT	6. FIXED SUPPORT	7. PINNED SUPPORT	8. ROLLER SUPPORT	9. FIXED SUPPORT	10. ROLLER SUPPORT

STRUCTURES - FBD TECHNICAL MODULE - II NIKAL SORATHIA D 03 SUPPORT AND REACTION 11th APRIL 2020