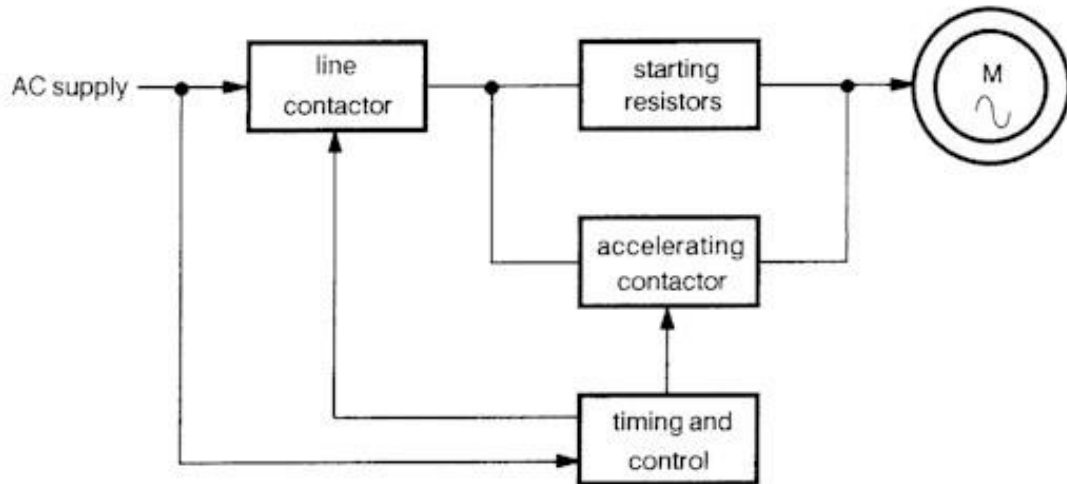
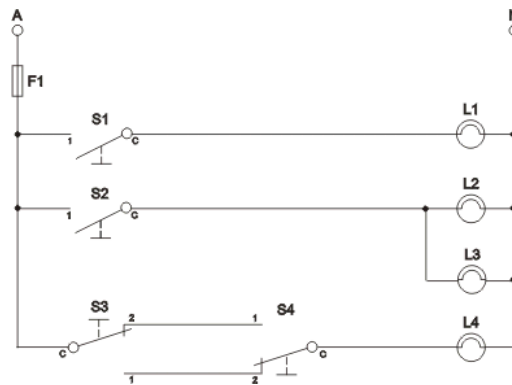


1. The electrical diagram shown below is a block diagram


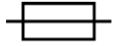
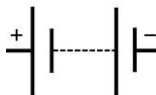

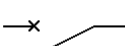



A block diagram shows overview of the relationship between different sections of a circuit

An electrical diagram with a 'ladder' layout as shown below is a circuit diagram



Circuit diagram symbols below to their name.

					
Diode	Fuse	Battery	Earth	Single circuit breaker	Indication lamp

The cable schedule below from the information given in the diagram for circuits 1, 3, 5 and 7.

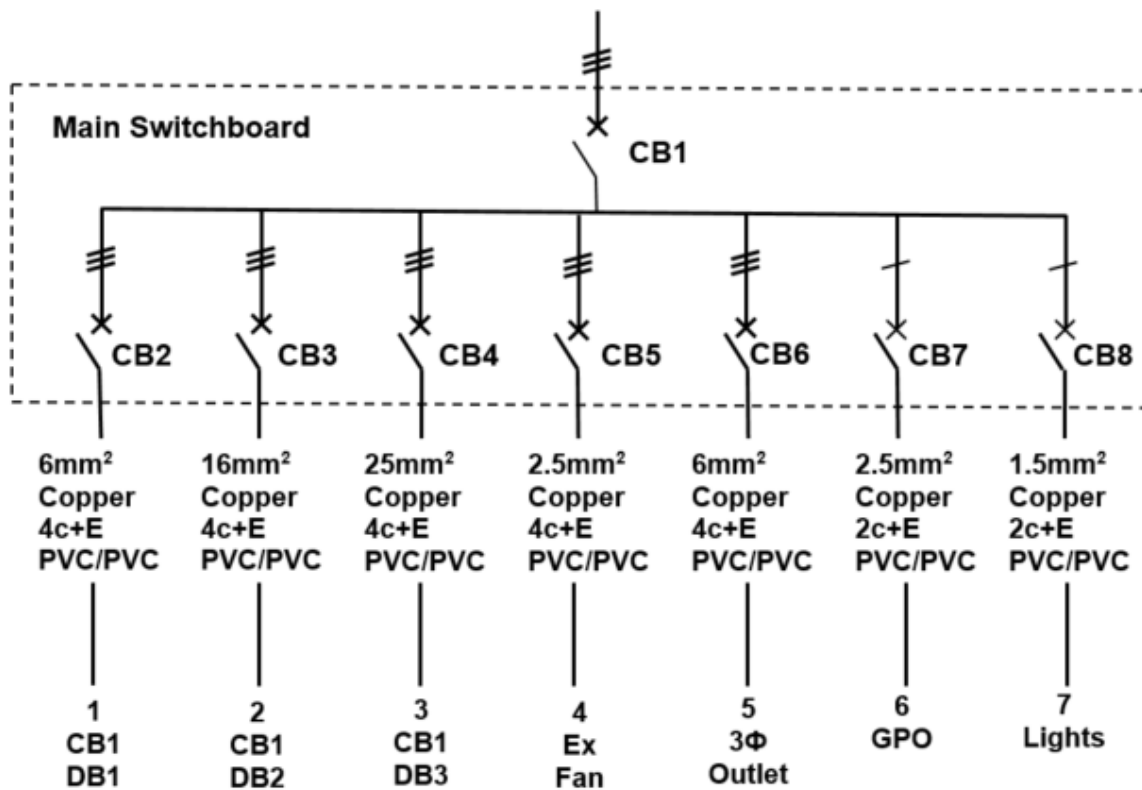


Table 1 Short Answer Table

Circuit	Origin	Destination	Type of circuit	Cable Type
1	MSB CB 2	DB 1 CB1	Sub-main	6 mm ² 4c+e
3	MSB CB4	DB3 CB1	Sub-main	25 mm ² 4c+e
5	MSB CB6	3ph outlet	Final sub-circuit	6 mm ² 4c+e
7	MSB CB8	1ph light circuit	Final sub-circuit	1.5mm ² 2c+e

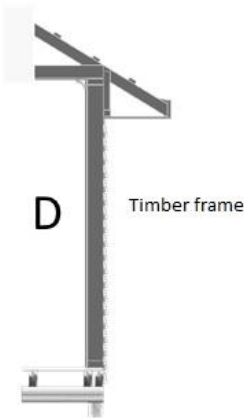
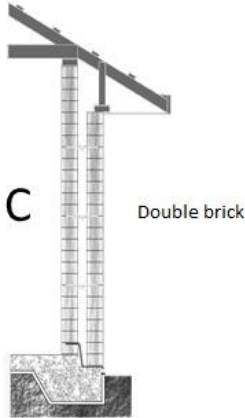
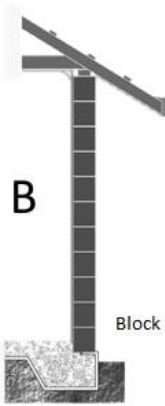
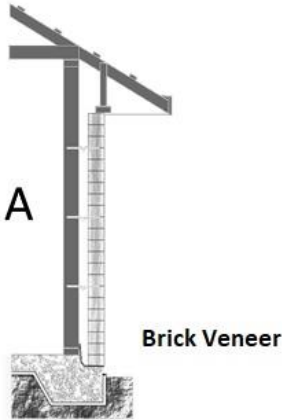
2-way switch with the switching chart

	Off	On
C-1		X
C-2	X	
C-L		
1-2		
1-L		
2-L		

Intermediate switch with the switching chart shown below.

types of building construction

	Off	On
1-2		
1-3		X
1-4	X	
2-3	X	
2-4		X
3-4		



The main advantages of metal frame buildings is The frame is resistant termite attack

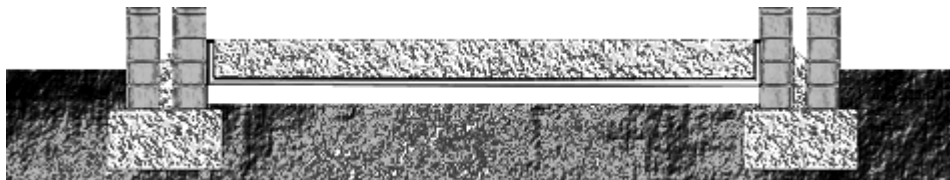
Two typical materials used for **floor construction** in the various styles of residential buildings.

- **Can include but not limited to: 1. Concrete 2. Particle board 3. Tongue and groove planks 4. High density fibre cement.**

Two typical materials used to **clad the external walls** of a house built using timber frame construction.

- 1. Weatherboards (timber)**
- 2. fibrecement**
- 3. Aluminium cladding**
- 4. Plastic cladding.**

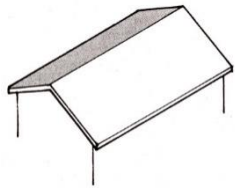
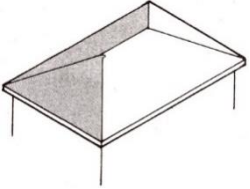
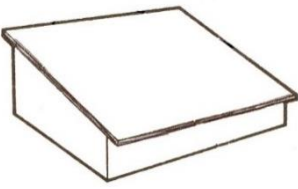
Type of footing illustrated below.



Pad Footing

The roof profiles shown in the images below.

Table 2 Multiple choice

Roof Profile Image			
	Gable	Hip	Skillion

Identify the elements of the interior wall below by writing the letter for each item in the table provided.

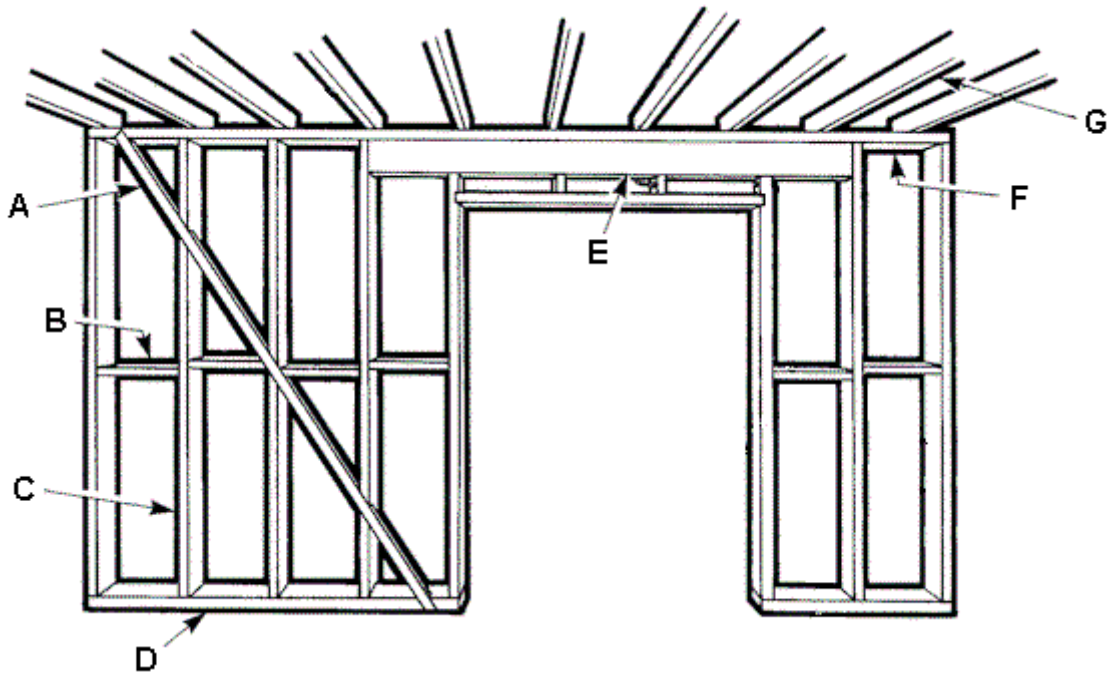


Table 3 Multiple choice

Wall Element	Letter
Bottom plate	D
Bracing	A
Ceiling joist	G
Header	E
Nogging	B
Stud	C
Top plate	F

To run a circular TPS cable to a solar array located on a roof. it is NOT permissible to run this cable between the roofing material and its immediate support member?

50 mm from the top side of the floor is the minimum acceptable distance that TPS cables may be installed below a timber floor without further protection.

2. When wiring a lighting circuit in a domestic dwelling ,the circuit be run in the ceiling

In multistorey buildings, cabling from the main switchboard to each floor is usually run through a vertical 'riser' that runs up the full height of the building

The ten tasks of a typical construction sequence for a residential premises

1. Setting out
2. Footings
3. Subfloor
4. Floor
5. Wall framing
6. Roof (frame and cover)
7. Ceiling
8. Moulding out
9. Tiling
10. Painting
11. Carpet laying

3. The rough-in is performed between stage number 6 and stage number 7

4. The fit-out is performed between stage number 10 and stage number 11

Two situations where the holder of a Qualified Supervisors Certificate (Electrical) may perform **electrical wiring work**.

- Doing work in your own home
- Whilst working for an employer

Section 8 of AS/NZS 3000:2018 outlines the requirements for verification and testing of electrical installations.

- AS/NZS 3000: Current Edition known as the Wiring Rules
- NSW Service and Installation Rules

Two segregation requirements to be satisfied when low voltage electrical, electronic and telecommunication cables are run together in the same enclosures

- Separation by the addition of durable insulation barrier or metal barrier between the cable groups
- Separation by distance greater than 50mm between the cable groups

Sections or clauses of an Australian Standard that provide **detailed information** about how work **MUST** be done are **deemed** to be Prescriptive based

Sections or clauses of an Australian Standard that provide **general information** about operational requirements and how an installation is to function once completed are **deemed** to be Performance based

Technical standards are intended to provide established requirements for repeatable technical tasks

Standards Australia is responsible for the development and application of technical standards in Australia. This is often done in partnership with a number of international organisations.

- International Organisation for Standardisation (ISO)
- International Electrotechnical Commission (IEC)

To be allowed to perform certain work tasks (e.g. work on an Electricity Distributor’s network), an electrical contractor must go through a rigorous process that checks the competency of all employees who will be performing the work, and also that the necessary equipment and procedures are in place to ensure safety. This process is called: Accreditation

Australian standards are printed using multiple type faces. Match the typeface to its use in the table below.

Bold Print	Normal Print	<i>Italic Print</i>	Reduced Print
Opening statements that define the fundamental principle of the clause	Substance of the clause containing the mandatory requirements	Exceptions or variations to the mandatory requirements	Explanatory notes which give additional advice

5. What is the maximum height above a platform that is defined as readily accessible? Provide the Clause in AS/NZS 3000.

2 m

Clause: 1.4.3

What is the minimum insulation resistance allowed between live conductors and earthed parts of an electrical installation? Provide the Clause in AS/NZS 3000.

1 MΩ

Clause: 8.3.6.3

What is the nominal supply voltage and tolerance for Australia? Provide the Clause in AS/NZS 3000.

230/400 V + 10% to – 6%

Clause: 1.6.2 (c)

How must the earthing system of an electrical installation be connected to the general mass of earth? Provide the Clause in AS/NZS 3000.

By using a compliant earth electrode.

Clause: 5.3.6.1

SafeWork Australia provides Codes of Practice that provide detailed information on specific work tasks to help workers achieve the standards required under work, health and safety laws.

It is not law but it is admissible in court proceedings.

AS/NZS 3000:2018 sets out the minimum requirements for all electrical installations?

National Construction Code is used by tradespeople when erecting compliant buildings in Australia?

Service and Installation Rules of New South Wales sets out the local service requirements for electrical services in NSW.

The NATSPEC specification system provides 'work section' templates that can be modified as required and grouped together to create a full Job Specification. The contents of a Job Specification may have requirements that go beyond the requirements of an Australian Standard