

**NATIONAL BUSINESS AND TECHNICAL EXAMINATIONS BOARD
NATIONAL TECHNICAL CERTIFICATE EXAMINATION**

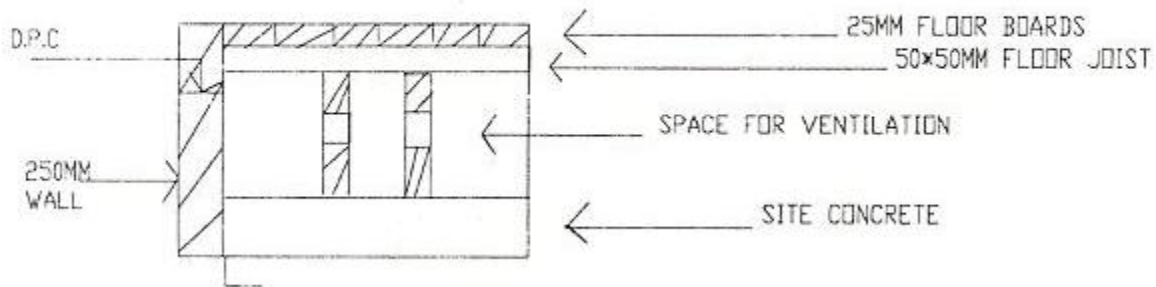
CARPENTRY & JOINERY – JUNE 2009

SECTION B – ESSAY

ATTEMPT FOUR QUESTIONS ONLY

1. Show by means of sketches how ventilation and damp proofing are provided on timber floors.

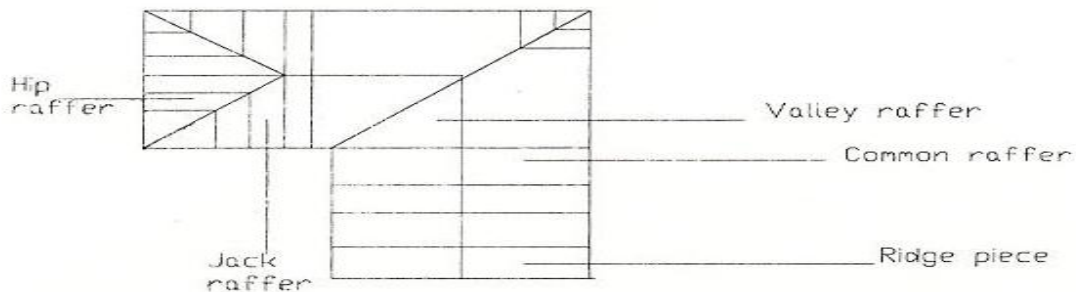
1a. A SECTION OF A GROUND FLOOR:



2a. With a line diagram sketch the plan of a roof to show the following members.

- i. Valley rafter
- ii. Hip rafter
- iii. Jack rafter
- iv. Common rafter
- v. Ridge piece

Line diagram of a hipped roof showing members



2b. State the functions of the following roof members.

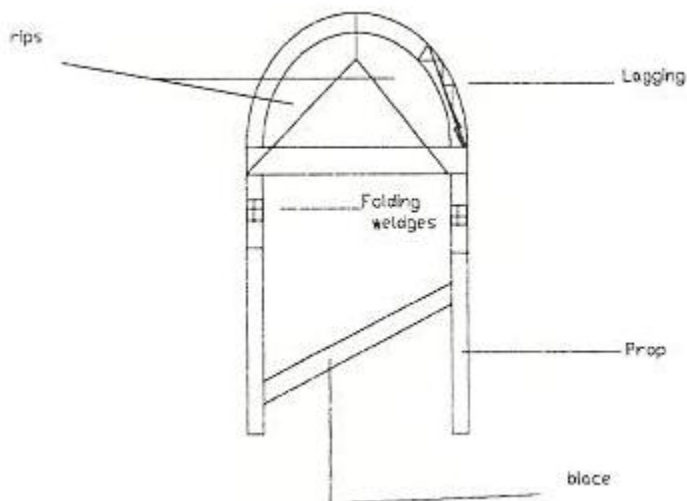
- i. Purlin
 - ii. Wall plate
 - iii. Fascia board
- 2b. i. Purlin: Purlin is usually 50MM X 75MM in size and is nailed across the rafters to bear roof coverings like corrugated iron sheets, asbestos, aluminium et.c.

ii. Wall plate: Wall plate is laid and secured at the top of the wall of a building. The purpose is to distribute load evenly to the building.

iii. Fascia Board.

It is for decorative purpose. It covers the ugly footings of rafters

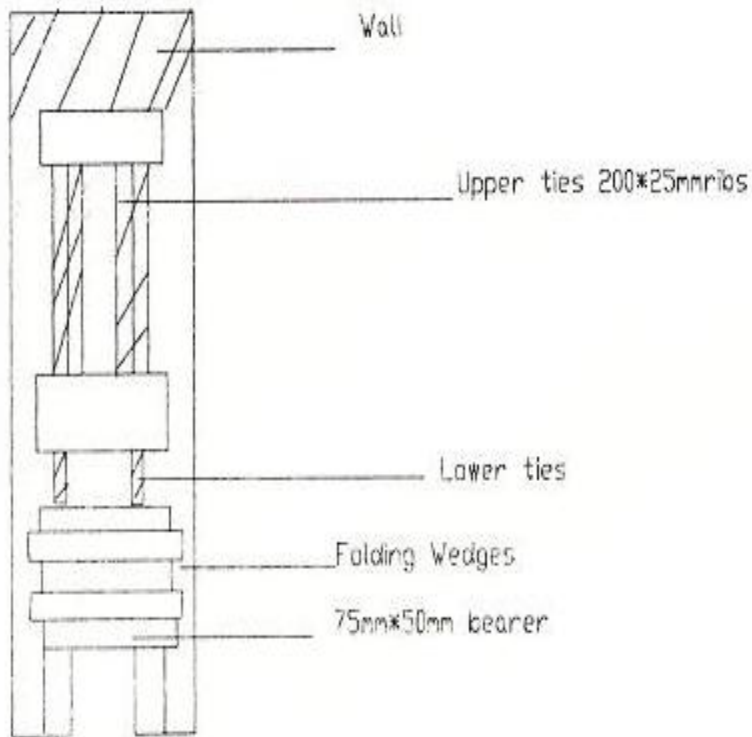
3a. Sketch the front elevation of semi-circular centre and indicate the following:
(i) lagging (ii) brace (iii) ribs (iv) folding wedges (v) prop.



Front elevation of semi-circular centre

3b. Show with labelled diagram details at the part of support.

A section of Sem-Circular Centre showing details

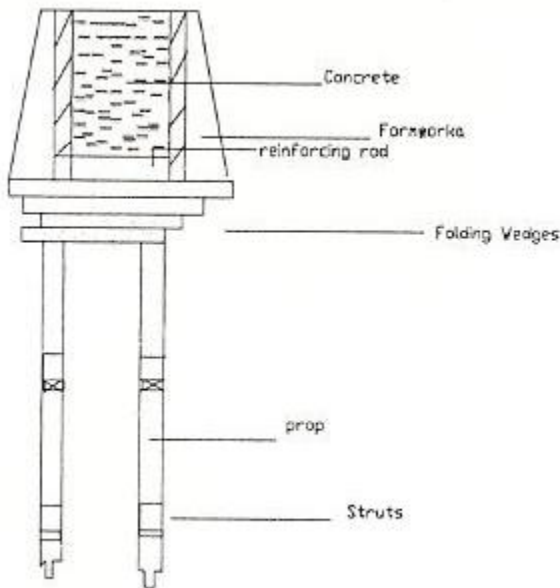


4a. State FOUR requirements of formwork for concrete

- 4a
- i. It should be rigid to be able to withstand the wet concrete when placed.
 - ii. It should be of sufficient strength to withstand working load and weight of wet concrete.
 - iii. It should be built tightly to prevent loss of fine material from concrete.
 - iv. it should be constructed in a way that erection and stripping is done with ease.
 - v. it should produce concrete face of good appearance.
 - vi. the materials used for its construction should be of uniform sizes.

- 4b. Sketch the cross section of formwork for a beam.

A cross section of formwork for a beam



- 4c. State the use of folding wedges

The use of folding wedges

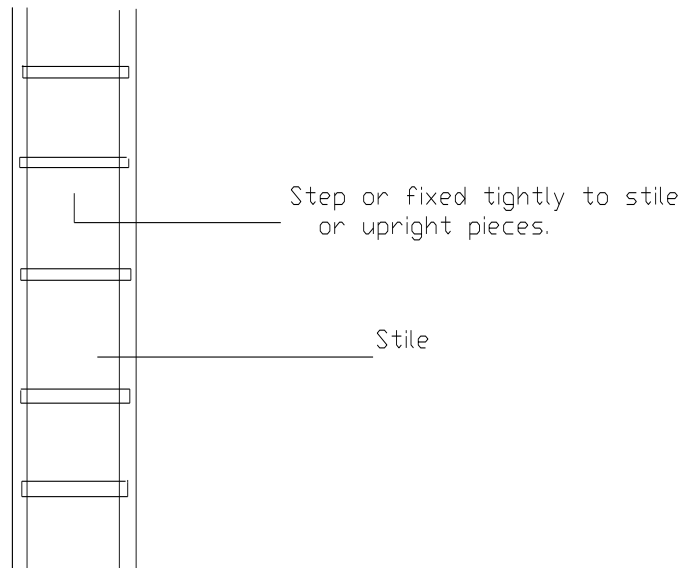
Folding wedges are tapered pieces of wood which are used for easing formwork and also for adjusting purposes.

5. State the:

- a. Difference between screens and partitions
- b. Basic requirement of a partition
- c. Functions of the head and nogging in a wood partition

- a. Screens and partitions seem to be similar but screens are used in schools, hotels and places of entertainment while partitions are employed to divide large part of the building into smaller section as required.
- b. The basic requirement of a partition is to divide a large apartment into smaller section and the covering material must be put into account before the erection.
- c. The function of the head in a wooden partition is that it receives the studs thereby, carrying the load above it and transmits it while the noggings strengthen the partition as it binds the studs together.

6. a. Sketch a ladder and show the parts.
- b. State the purpose of a ladder in a building
- c. State two safety precautions in the erection, maintenance and use of timber gantry.
- 6a. A sketch of a ladder showing the parts.



- b. The purpose of a ladder in a building
The ladder serves as a means of access to the upper part of a building when it is necessary to effect a repair such as the roof, ceiling etc. It is a necessity at home.
- c. It is necessary that a timber gantry be build very strong to serve the purpose and be maintained constantly. It should not be made to carry more than the required load when in use.