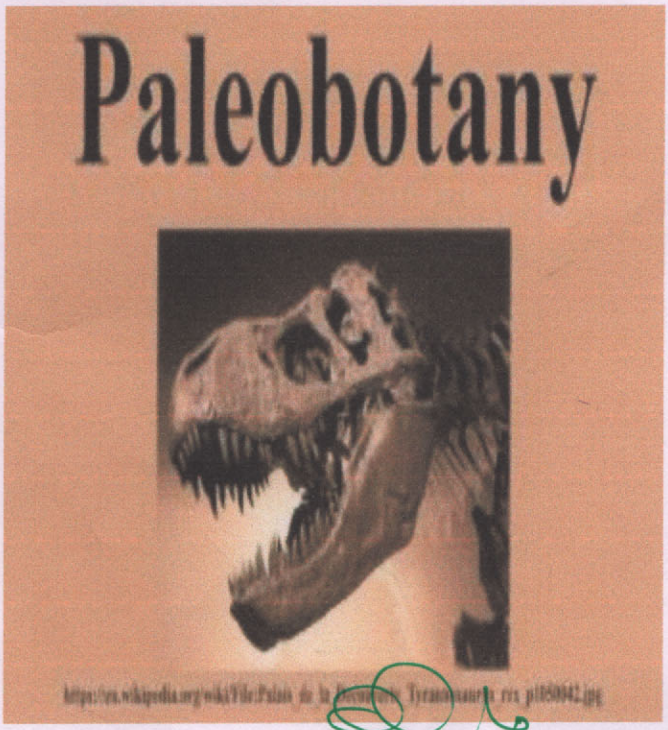
Project About Paleobotany

a) General Characters

b) Lyginopteris

c) Lepidodendron

d) Calamites



Co-ordinator,
Internal Quality Assurance Cell
M.G.V.C. Arts, Commerce & Science College

PRINCIPAL,
M. G. V. C. Arts, Com. & Science College
MUDDEBIHAL - 586212.

S.G.V.C Vidya Prasarak Trust's

M.G.V.C ARTS, COMMERCE AND SCIENCE COLLEGE
MUDDEBIHAL-586212

DEPARTMENT OF BOTANY

Arts, Commerce & Science College * M.G.V.C Dept. Botany MUDDEBIHAL -586212

CERTIFICATE

Examination Seat No: S1928151 **Class:** B.Sc -III

This is to Certify that, Mr/~~Mrs~~. WASEEM . H. BAGWAN

Has satisfactorily completed Project work on" PALEOBOTANY

"Under my supervision in M.G.V.C Arts, Commerce and Science College Muddebihal year 2020-2021

Staff Member in charge

Head of the Department of Botany
M.G.V.C. College, MUDDEBIHAL-586212
Dist: Bijapur.

Head Department of Botany

PALEOBOTANY

Paleobotany is the branch of paleobotany or paleobiology dealing with the rocovery and identification of plant remain from geological contexts and their use for the biological reconstruction of past environment (paleogeography)and the evolutionary history of plants with bearing upon the evolution of life in general.

- Paleobotany is important in the reconstruction of the ancient ecology

  systems and climate known as paleo ecology and paleoclimatology respectively and is fundamental to the study of green plant development and evolution.

Objectives of paleobotany

1) Major aim is to reconstruct entire fossils plants,

2) To assign extinct plants to particular taxonomic groups,

3) To understand evolution of extinct (Fossils) plants,

What is Fossils

* Any evidence of previous life

* Either direct or indirect evidence

* Fossils localiteexist from the Arctic through the tropics onto antrachica.

*In sedimentary rock usually in where the rocks have been expose.

Lyginopteris

- **Divison :- Gymnospermae**
- **Class :- Cycadodsida**
- **Order :-Pterdospermales**
- **Family :- Lyginopteridaceae**
- **Genus:-Lyginopteris**

Lyginopteris is a Fossils gymnosperms it was first discovered from call mines of Lancashire and Yorkshire in 1828 lyginopteris has only one representative called lyginopterisoldhamic it was a sporophylic plant it was differentiated into stem leaves and roots,

Internal structure of the stem.

The cross section of the stem shows an outer epidermis.middle cortex and Central stele,

Epidermis

The epidermis is the outer most layer of compactly arranged thin walled cells

Cortex

The Cortex present next th the epidermis it is multi-layered and diffentiated into another outercortex and inner cortex

Stele

The is the central core of the stem is lies below the cortexit consists of an outer pericycle vascular bundles and Central pith

Reproduction of lyginopteris

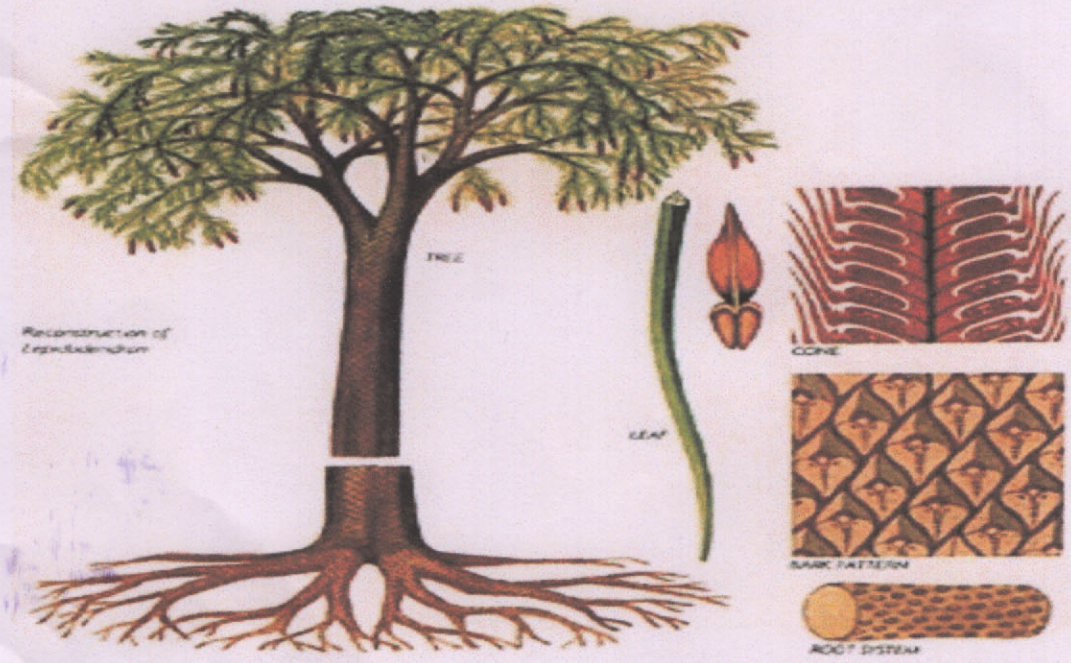
Lyginopterisoldhamia was a hetrosporous plant the fertile leaves of fronds borne microsporangia and ovules

Microsporangium

The microsporangium was a pollen bearing organ the fronds. Bere microsporangia on the lower side of their fertile pin ules the fertile pinnule was wedge shape each pinnule bore six biolular microsporangia the locules were filled with numerous microspore or pollen.

Ovule-the ovules were megaspores produced on fertile regions of fronds the ovule was a small barrel shaped structure with a short stalk It was covered by a stalk covering called interguments the interguments was called intugments .theintugments was opening called pallen chamber

Lepidodendron



- **Division:- Pteridophyta**
- **Sub- division:- Lycopsida**
- **Order: -Lepidodendrales**
- **Family:- Lepidodendraceae**
- **Genus: Lepidondron**

Lepidodendron the type of genus of lepidodendron is the predominant tree in the carboniferous coal Fossils

they are known since the upper Devonian and gradually within the from of the stigmaria over loospecies of lepidodendron are known as all over the world

most of the species were all trees with a trunk upto about half a meters with a trunk upto about half a meters in diameter and 40 meters high.the main trunk was unbrachaed but repeated dichotomous at the top gave rise ta a large crown leaves were simple .ligulate and acicular to linear and 1 to 80 cm Lang leaves were born on the summit of pyramidal.

Cushions like leaf bases of rhimbic outline which peristed on the trunk after absecission species and genera and distinguished by the shape and arrangment of these cushions

T s os stem at trunk shows a protostele which is exarch and polyarch the stele is slender in comprassion to the massive cortex, with a number of proto xylem ,

Calamites

- **Dicision:-Pteridophyta**
- **Sub division:-Sphenopsida**
- **Order:-Calamitales**
- **Family:-Calamitaceae**
- **Genus:- Calamites**
- Calamites is considered as the only genus by many pteridologists although numerous from genera of stem .leaves and strobile are recognized the name calamites is due to sukow 1784 who

used it for pith casts the saprophyte plant known mainly from casts we mostly trees attaining height of 20 to 30
Meters although a few of them might have been smaller shrubs
Roots of calamites are usually placed in the form asteromyelon these adventitious roots do not show nodes and inter nodes .the primary xylem is exarch and carinal are absent.
Leaves of calamites are placed in a number of form genera ex.annularia ansastero phyllites there are 8 to 32 linear to spathulate leveas about 5mm to few centimeter in length in a whorl, There is single median vein in each leaf and leaves are known. The T.S is triangular .A small vascular strand in the center is surrounded by the mesophyll tissue of long .Radiating palisade cell .There is a continuous single layered epidermisall round with numerous stomstomata.thestructure has some similarity with pine leaves .