



DEPARTMENT OF ELECTRONICS

Anand Niketan College, Anandwan, Warora - 442 914

HOD: Dr. G. K. Singh, Cell: 9075322625, Email: ugclasses@gmail.com



ICT FACILITIES FOR TEACHING-LEARNING



- Department is well equipped with ICT facilities for effective teaching-learning
- In addition to View Sonic Projector, it has Cybernetix Eyeris Ix series, Interactive Device Unit installed that makes whiteboard interactive
- It has high speed fibre cable internet facility
- It has six computers and four of them relate to internet
- Departmental faculty members use Microsoft Teams and Google Meet for online teaching-learning

PowerPoint Slide Show - 2. Kirchhoff's Current and Voltage Laws - Pow...

Ele S-1

17:43

GS
G K Singh L...

VD
On hold

SS
SWARUPAT...

megha (Guest) ...

Slide 1 of 14

Type here to search

19°C Haze

07:14 PM
29-01-2022

Online teaching-learning with Microsoft Teams



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The screenshot shows a Microsoft Teams meeting interface. On the left, a PowerPoint slide titled "Types of Programming language" is displayed. The slide contains a diagram of a pyramid with five levels: CPU (Hardware) at the base, followed by Machine Language, Assembly Language, High-Level Language, and a top section divided into FORTRAN, C, and PASCAL. Below the diagram, there are four bullet points:

- CPU (Central Processing Unit) of computer functions with machine language.
- Each different type of CPU has its own unique machine language.
- Machine language consists of binary numbers only.
- Remembering and using instructions written in machine language is difficult.

On the right side of the screenshot, a grid of video thumbnails shows several participants in the meeting, including Mohan Virutkar, Pratiksha Kadurkar, Kalyani Bhojar, swarupata sarpate, Megha S. Rangari, and You. The meeting ID is ffx-ggeu-dfx.

Online teaching-learning with Microsoft Teams

LINK FOR LECTURE VIDEOS AND PDF FILES

1. Digital Book link for B. Sc. Electronics Sem-V P-II:
<https://ancollege.edu.in/wp-content/uploads/2022/07/C-Learning-E-Content-Module-for-B.-Sc.-Electronics-S-V.pdf>
2. Digital Practical Book link for B. Sc. Electronics Sem-V:
<https://ancollege.edu.in/wp-content/uploads/2022/07/C-Practical-Learning-E-Content-Module-for-B.-Sc.-Electronics-S-V.pdf>
3. Digital Book link for B. Sc. Electronics Sem-VI P-II:
<https://ancollege.edu.in/wp-content/uploads/2022/07/C-Learning-E-Content-Module-for-B.-Sc.-Electronics-S-VI.pdf>
4. S-III P-I U-I PDF Files
5. S-III P-I U-II PDF Files
<https://drive.google.com/drive/folders/1eTj-JIGYNAbXPwSr9hjbRmdEG3h1v7Ox?usp=sharing>
6. S-I P-I U-I PDF Files
<https://ancollege.edu.in/wp-content/uploads/2022/07/B.-Sc.-Ele.-S-I-P-I-U-I.pdf>
7. S-II P-II U-I PDF File
<https://ancollege.edu.in/wp-content/uploads/2022/07/B.-Sc.-Ele.-S-II-P-II-U-I.pdf>



DEPARTMENT OF ELECTRONICS

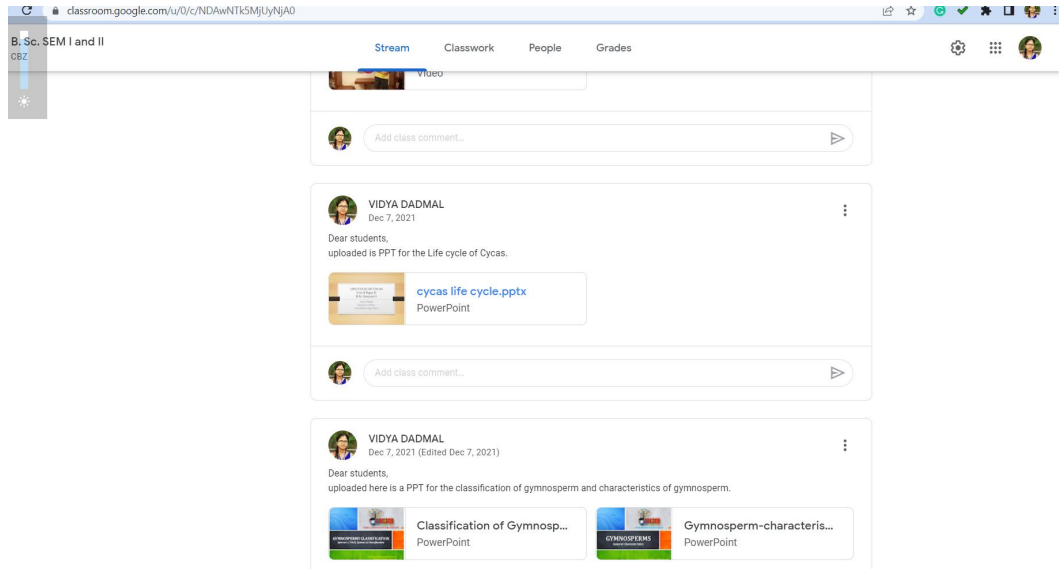
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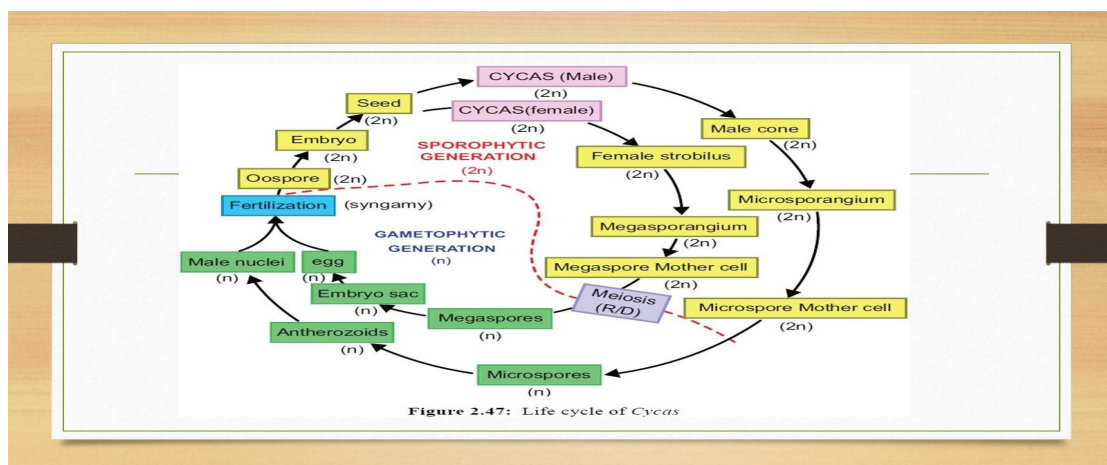
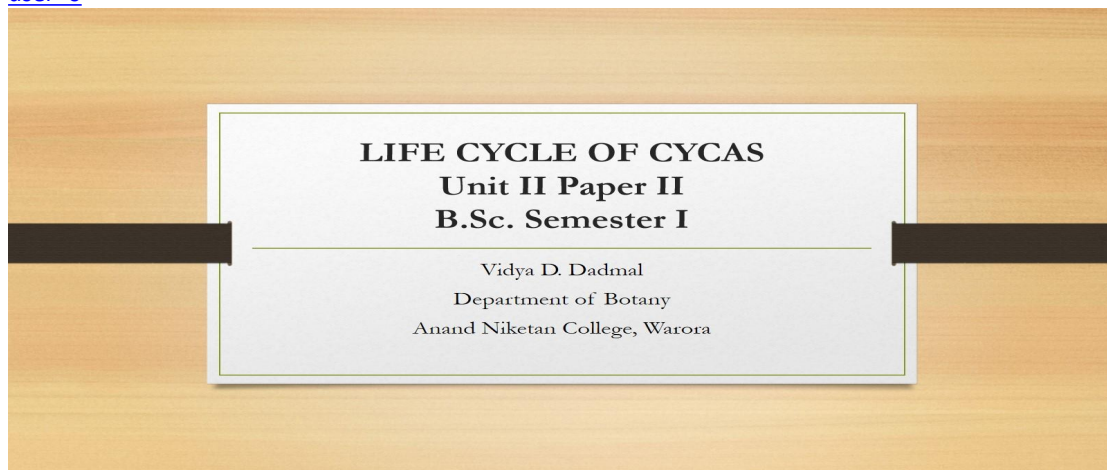
8. S-II P-II U-II PDF File
<https://ancollege.edu.in/wp-content/uploads/2022/07/B.-Sc.-Ele.-S-II-P-II-U-II.pdf>
9. S-III P-I U-I PDF File
<https://ancollege.edu.in/wp-content/uploads/2022/07/B.-Sc.-Ele.-S-III-P-I-U-I.pdf>
10. S-III P-I U-II PDF File
<https://ancollege.edu.in/wp-content/uploads/2022/07/B.-Sc.-Ele.-S-III-P-I-U-II.pdf>
11. S-IV P-II U-I PDF File
<https://ancollege.edu.in/wp-content/uploads/2022/07/B.-Sc.-Ele.-S-IV-P-II-U-I.pdf>
12. S-IV P-II U-III PDF File
<https://ancollege.edu.in/wp-content/uploads/2022/07/B.-Sc.-Ele.-S-IV-P-II-U-III.pdf>
13. S-IV P-II U-IV PDF File
<https://ancollege.edu.in/wp-content/uploads/2022/07/B.-Sc.-Ele.-S-IV-P-II-U-IV.pdf>
14. C&C++ Certificate Course PDF File
<https://ancollege.edu.in/wp-content/uploads/2022/06/C-C-Certificate-Course.pdf>

**ANAND NIKETAN COLLEGE, ANANDWAN
DEPARTMENT OF BOTANY
ICT ENABLED TEACHING AND LEARNING**



Link for Uploaded PPT:

https://drive.google.com/file/d/100HdoGTxz6BAK3vWkfxqpRIIE78NzTyR/view?usp=drive_web&authuser=0



ANAND NIKETAN COLLEGE, ANANDWAN
DEPARTMENT OF BOTANY
ICT ENABLED TEACHING AND LEARNING

VEGETATIVE REPRODUCTION

- By bulbils
- The bulbils develop from the axil of the scaly leaves.
- Several scaly leaves are arranged spirally and compactly over a dormant stem in a bulbil.
- On detachment from the stem, a bulbil starts germination by producing many roots towards the lower side and a leaf towards the upper side.

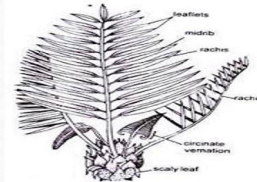


Fig. 8.30. Cycas. A single bulbil.

Morphology of Cycas plant

- Cycas is a palm-like, evergreen plant.
- The plant body consists of a columnar aerial trunk with a crown of pinnately compound leaves as its top.
- Root in Cycas are of two type: normal tap root system and coralloid roots
- The stem is thick, woody and usually unbranched. It is tuberous when young but columnar, erect and stout at maturity.
- Dimorphic leaves: green, assimilatory or foliage leaf and scaly leaves or cataphyllus.



SEXUAL REPRODUCTION



Male Cone (Cycas)

- Cycas is the only genus of Cycadaceae which does not produce any female cone. Instead, several megasporophylls arise spirally in acropetal succession around the stem apex of the female plant.

Development of Microsporangium

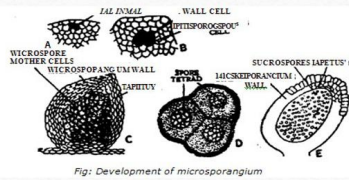


Fig: Development of microsporangium

It is eusporangiate type.

Few hypodermal sporangial initial divide periclinally to form outer primary wall and inner sporogenous cell.

Outer primary wall produce 5-6 cell thick wall of sporangium.

Sporogenous cell further divide and develop into microspore mother cell.

MMC undergo meiosis division produce haploid microspores or pollen grains arranged tetrahedrally.

Tapetum utilized for spore formation,

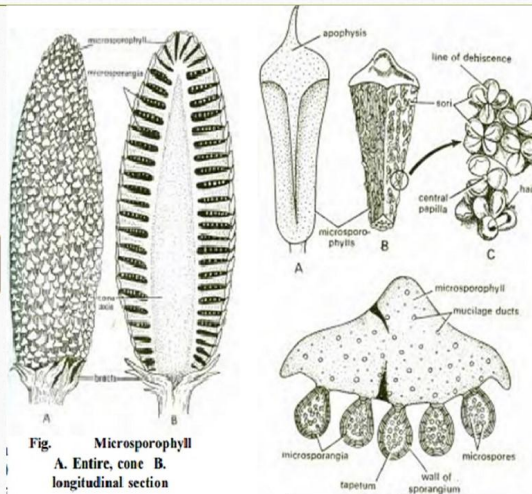


Fig. Microsporophyll
 A. Entire, cone B. longitudinal section

Microsporophyll are flat leaf like, woody and brown color structures with narrow base and expanded upper portion which become pointed called apophysis

On adaxial surface ridge like projection is present
 On abaxial surface microsporangia is present in group.

Each such group is called sorus.

In between these group hair like structure is present.

Oval or sac like microsporangia is surrounded by 5-6 layers(outer epidermis or exothecium, middle inner wall cell, innermost is tapetum)

Many pollen grain present in microsporangium.

Expanded region of microsporophyll mucilaginous canal and vascular bundles are present.

Female cone



True female cone is absent in Cycas

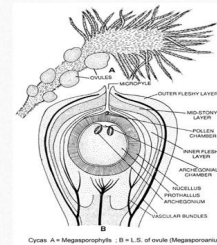
Megasporophyll are loosely arranged in crown

On the apex of the main stem the megasporophylls arises in an acropetal succession.

Megasporophyll in Cycas are produce only once in year

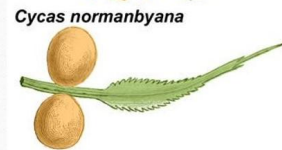
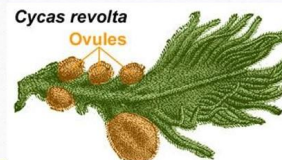
Structure of ovule

Orthotropous, unitegmic and shortly stalked.
Single integument is thick and cover the ovule all side except a mouth like opening called micropyle.
Integument consist 3 layer: outer called sarcotesta, middle called sclerotesta, inner.
Nucellus grows out into a beak like portion, certain cell of the top of nucellus dissolve and form pollen chamber.
Nucellus is reduced in the form of a thin papery layer in mature seeds enclose the massive female gametophyte.
Embryo sac/ megaspore present within nucellus.
The endosperm form by the repeated division of the megaspore nucleus followed by free cell formation.
Just below the pollen chamber is present an archegonial chamber.

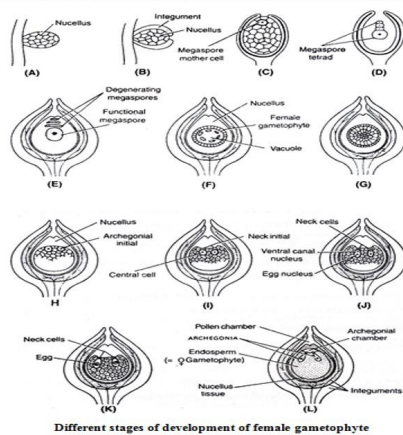


Megasporophyll

Each megasporophyll is modified foliage leaf. It is flat body consisting an upper dissected or pinnate leafy portion, middle ovule-bearing portion and proximal petiole. They are green when young but at maturity they are fleshy and bright orange or red-colored.



Cycadales (cycads) - Cycas spp. megasporophylls ("carpels").
From: Zimmermann (1930), Die Phylogenie der Pflanzen, Verlag von Gustav Fischer, Jena.
Drawing: Karsten. Colorization: Leubner.
© 2007 Gerhard Leubner - The Seed Biology Place - www.seedbiology.de



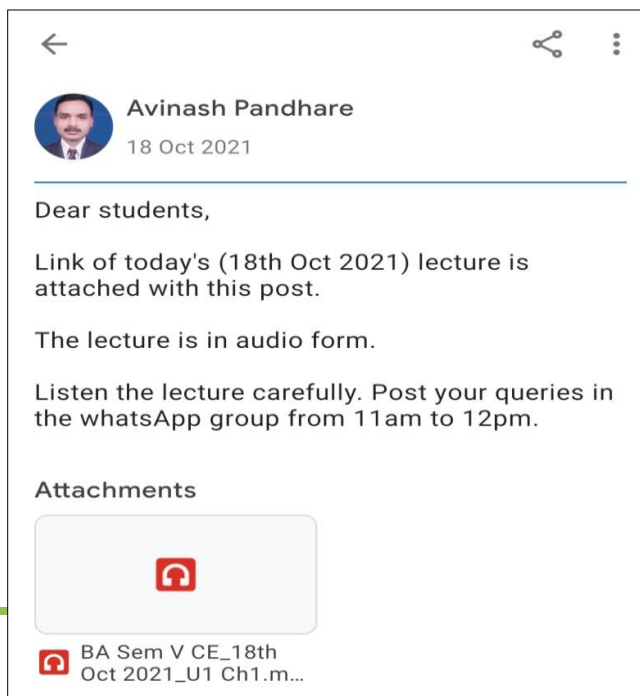
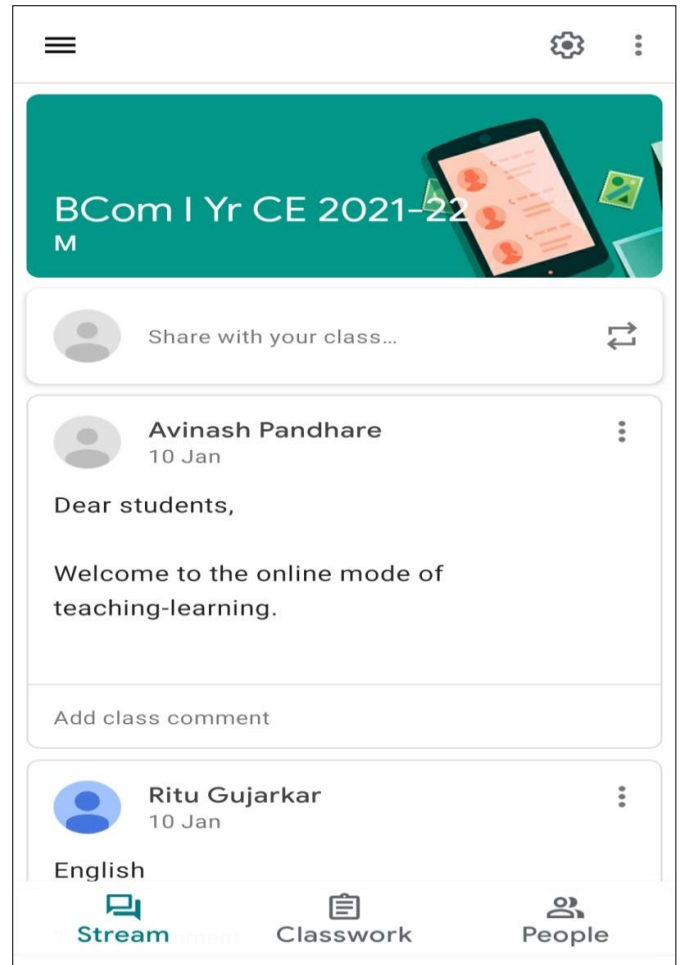
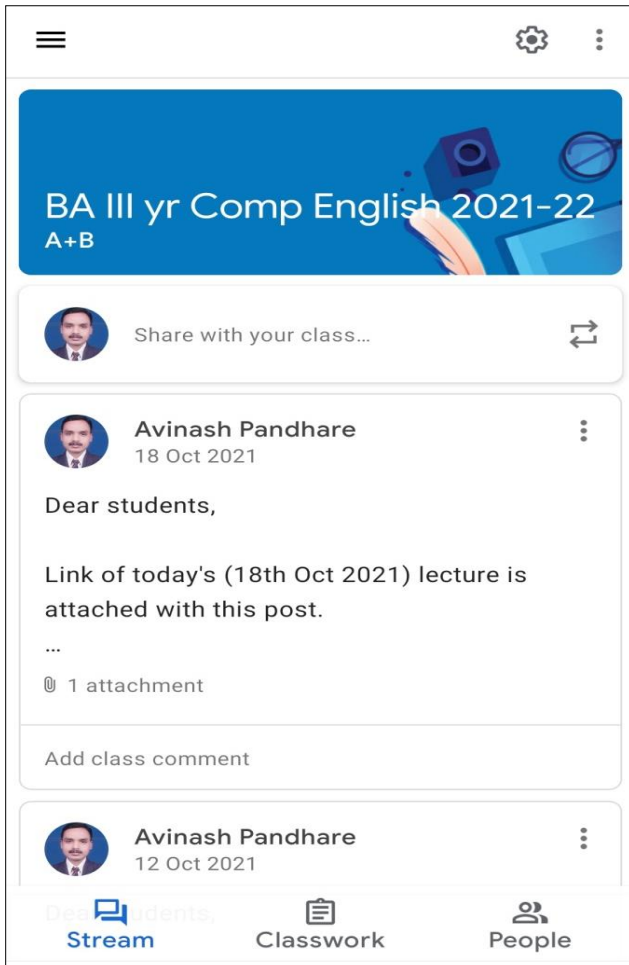
Different stages of development of female gametophyte

- In nucellus regions the nucleus of the cell enlarge
- Its cytoplasmic contents become dense and it also increase in size.
- This cell represents the megaspores mother cell, which undergo meiosis to form four haploid megaspores arranged in a linear tetrad.
- Out of these four megaspores, the upper three present towards the micropylar end degenerate, leaving only the lowermost functional megaspore or embryo sac cell.
- This is the first cell of gametophyte.
- The archegonia develop from the gametophytic cells lining the archegonial chamber towards the micropylar end.
- Any cell enlarge in size and functions as archegonial initial which later on after repetitive division develops into archegonium.

Use of ICT in Teaching – 2021-22

-Dr. Avinash L. Pandhare

A. Google Classroom



Dr. Avinash L. Pandhare

B. Online Lecture and Unit Test

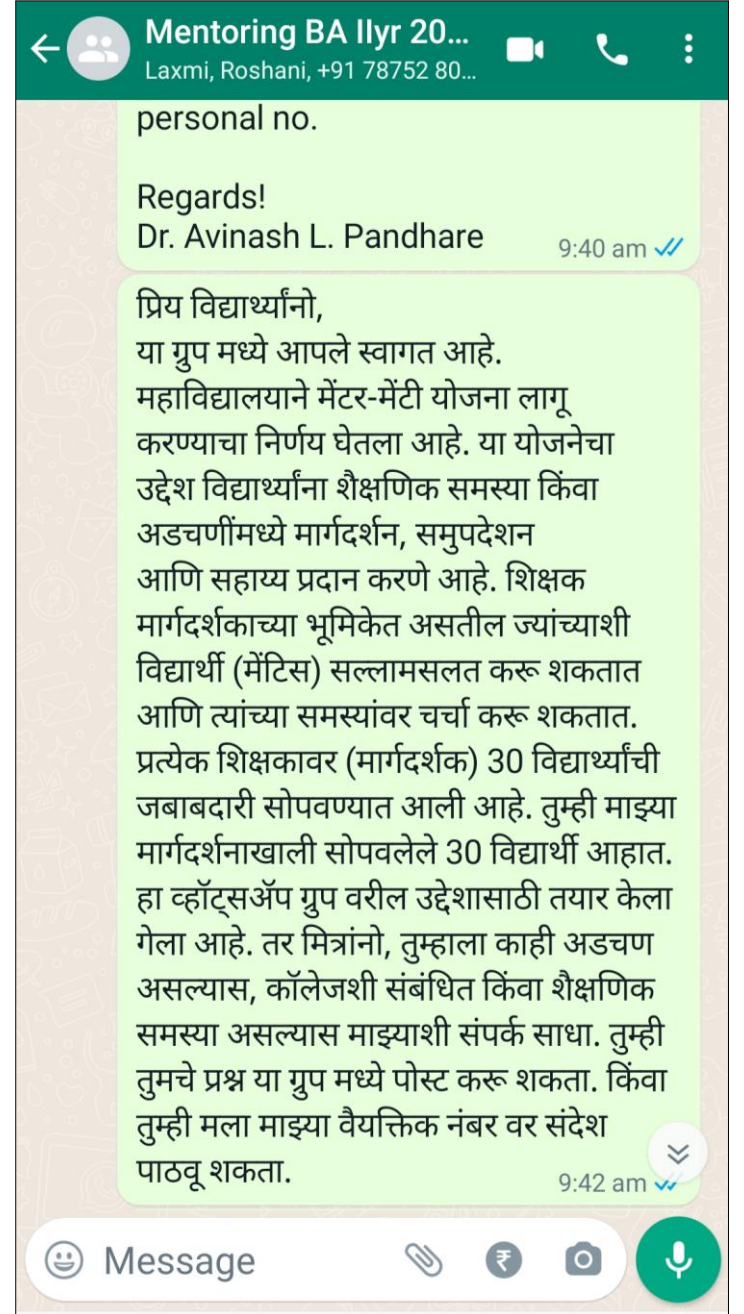
The slide features a white background with a blue wavy header. The main title is 'B A Sem V' in large red font, followed by 'Comp English' in blue and '(Syllabus & Que Paper Pattern)' in black. A play button icon is centered below the title. In the bottom left, there is a small video inset of a man in a white shirt. To the right of the inset, the text reads 'By Avinash L. Pandhare' in blue, with 'Anand Niketan College, Anandwan-Warora' in green below it.

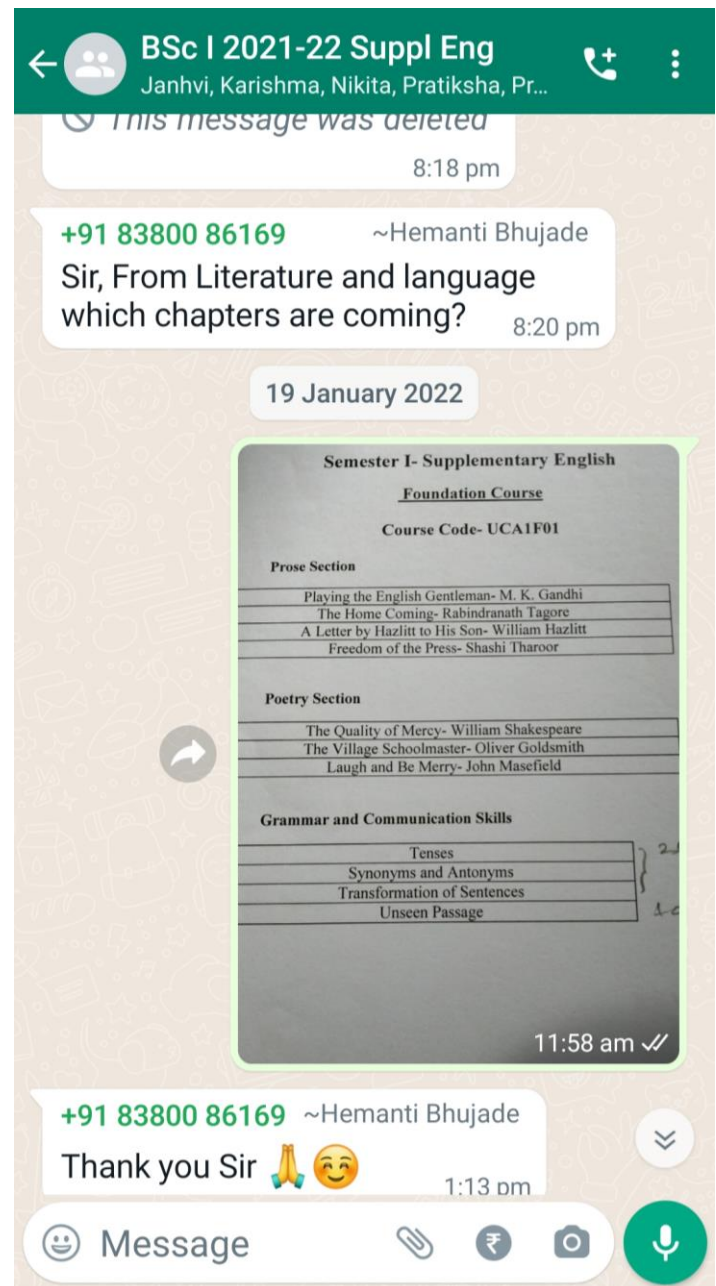
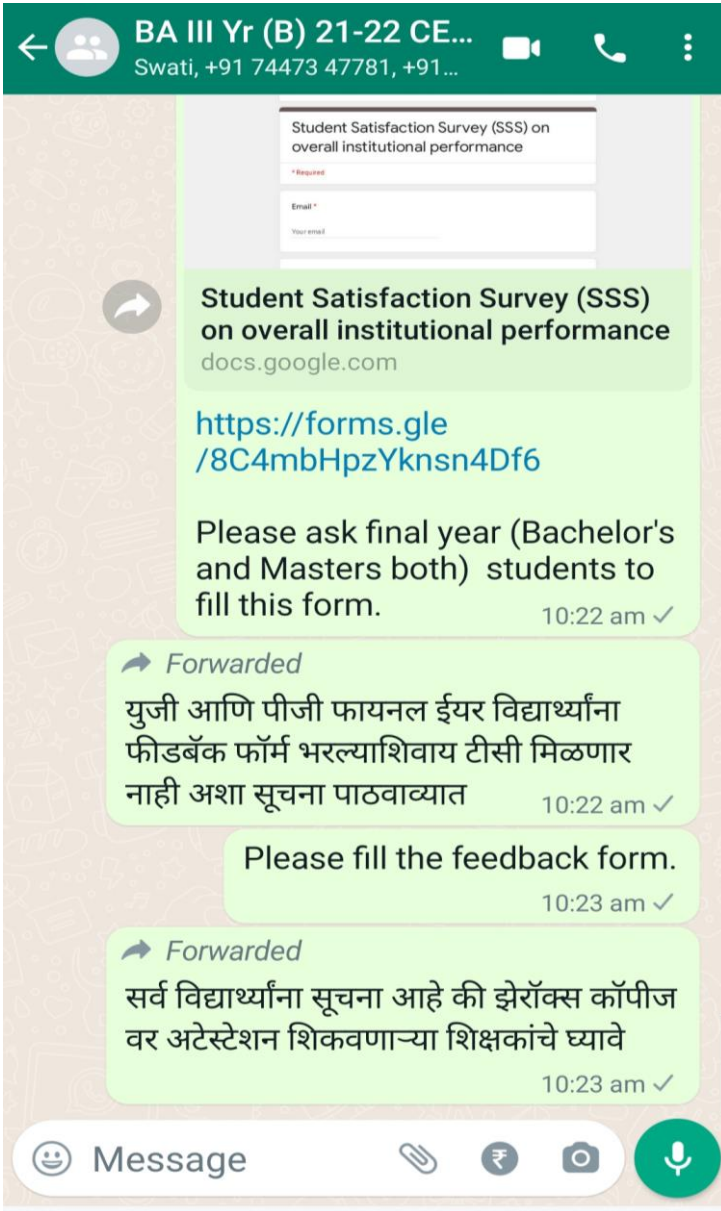
The screenshot shows a Google Forms page titled 'BA Sem VI (Com Eng) - Unit Test 3'. The 'Responses' tab is active, showing 36 responses. The question is: 'Two or more main clauses are joined by words (or pairs of words). These are called ____.' The options are:
 subordinating conjunctions
 coordinating conjunctions
 C. pairing words
 joining words
The next question is: 'Capital letters/alphabets are also called ____.' The options are:
 bold letters
 big letters
 upper-case letters

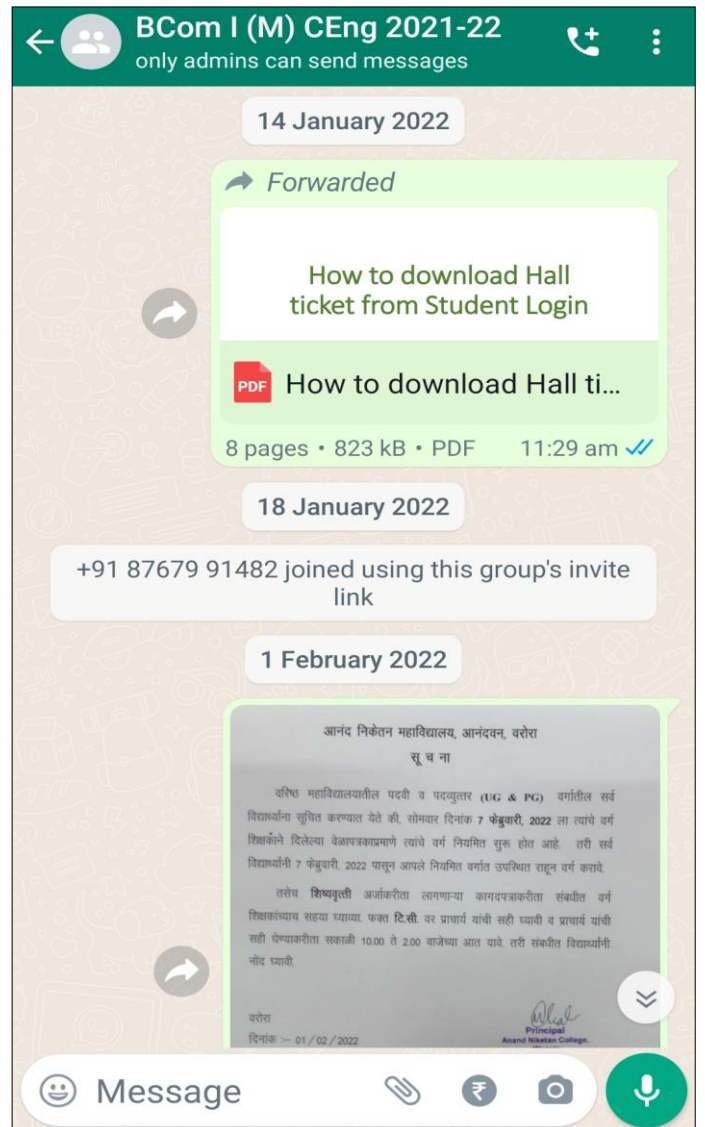
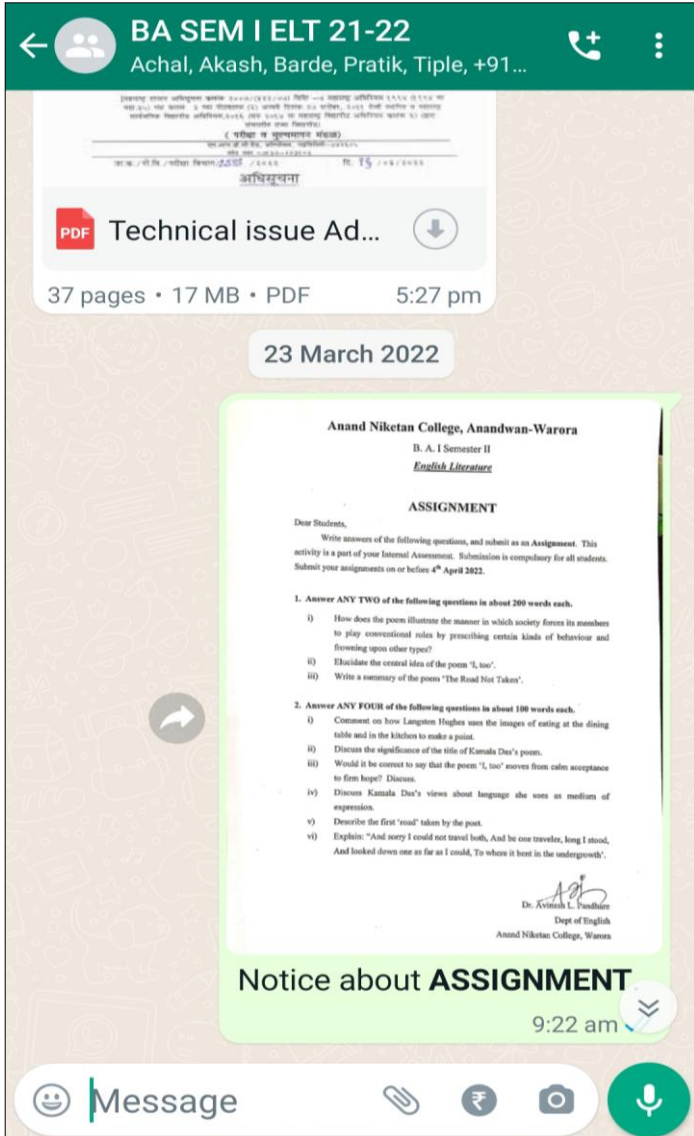
The screenshot shows the 'Scores' tab for the 'BA Sem VI (Com Eng) - Unit Test 3'. It displays a table of scores for 36 responses. The 'Release scores' button is visible.

Response	Score
anandniketan@gmail.com	20
madhurutumsare792@gmail.com (1)	20
sunitamagre939@gmail.com	8
madhurutumsare792@gmail.com (2)	30
sunitamagre939@gmail.com (1)	14
madhurutumsare792@gmail.com (3)	30
madhurutumsare792@gmail.com (4)	36
madhurutumsare792@gmail.com (5)	34
madhurutumsare792@gmail.com (6)	38
madhurutumsare792@gmail.com (7)	34

C. Use of Whatsapp



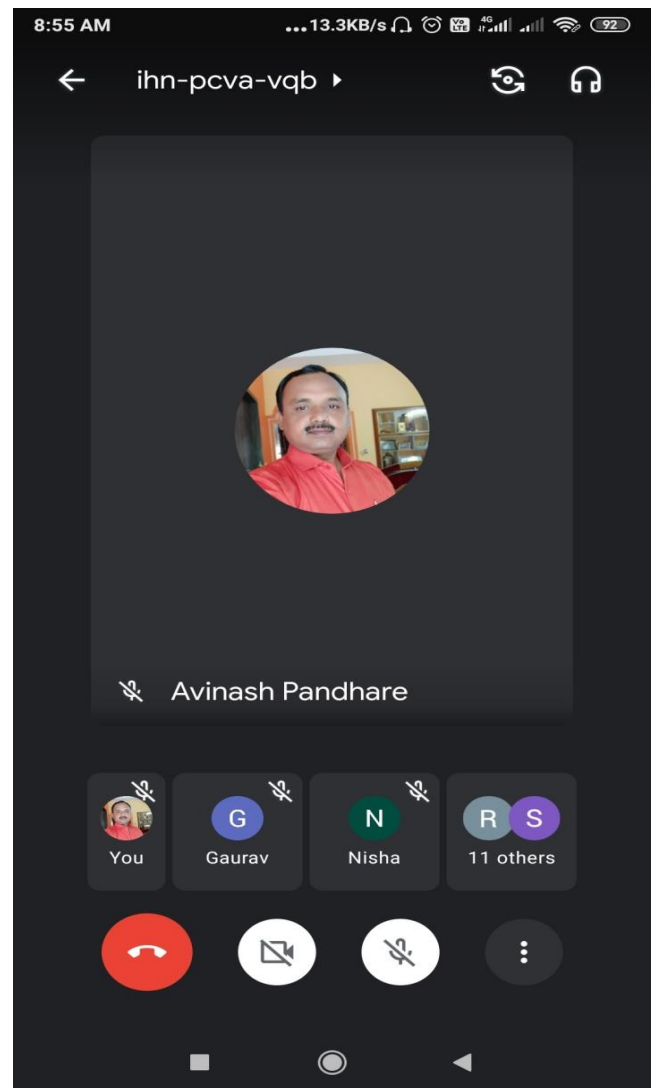
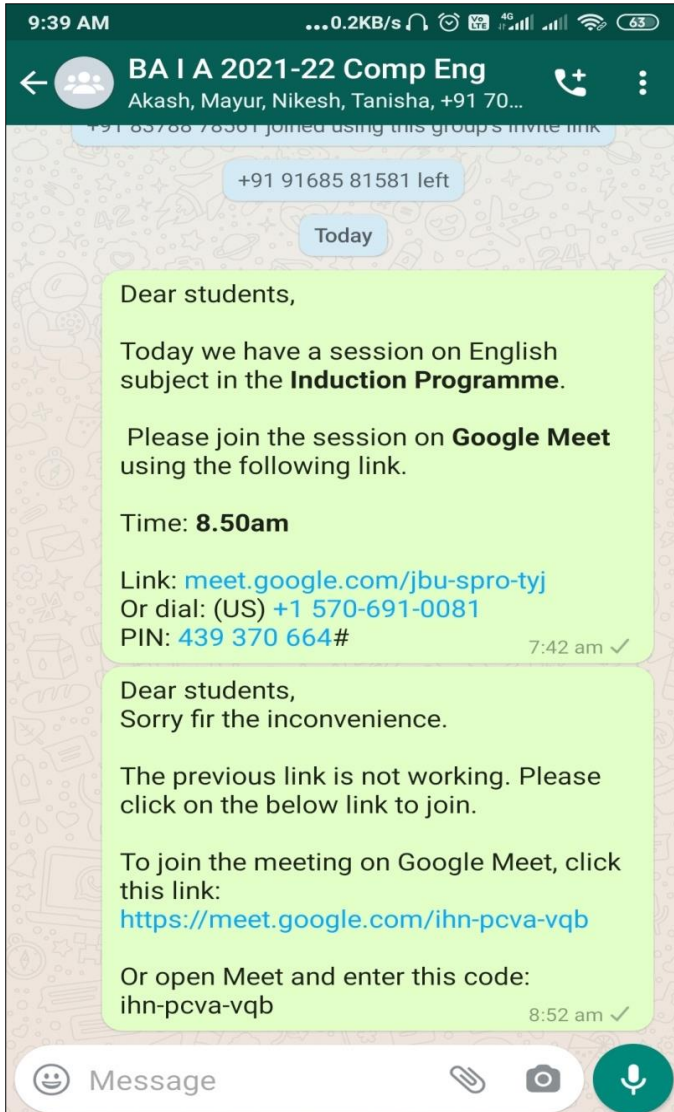


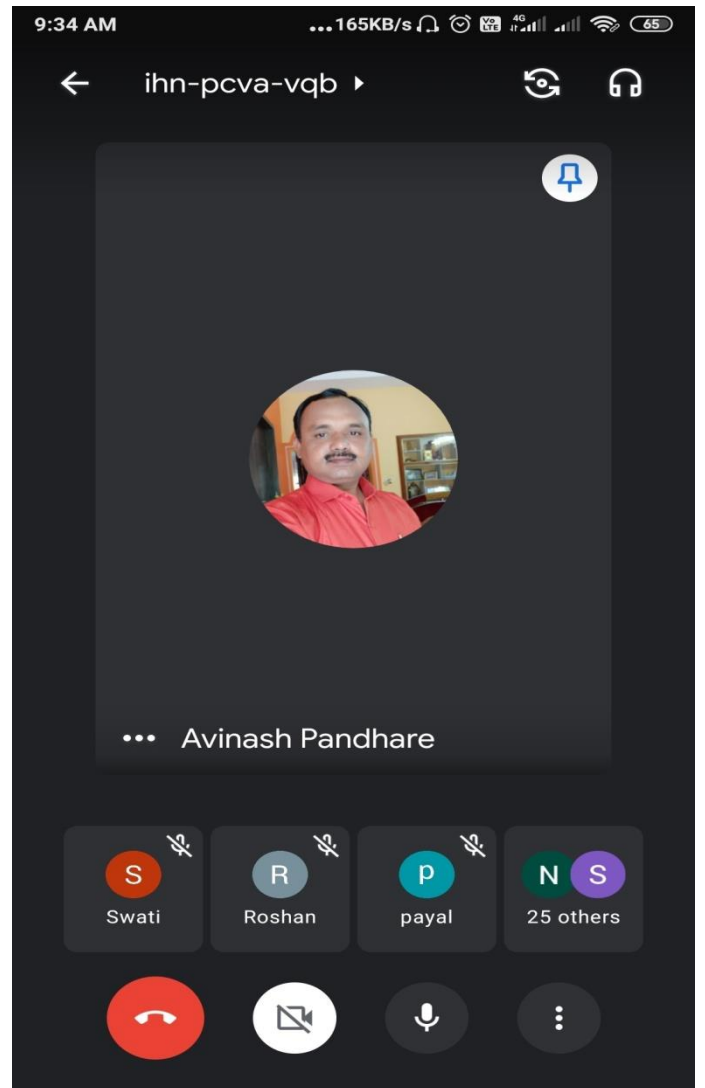
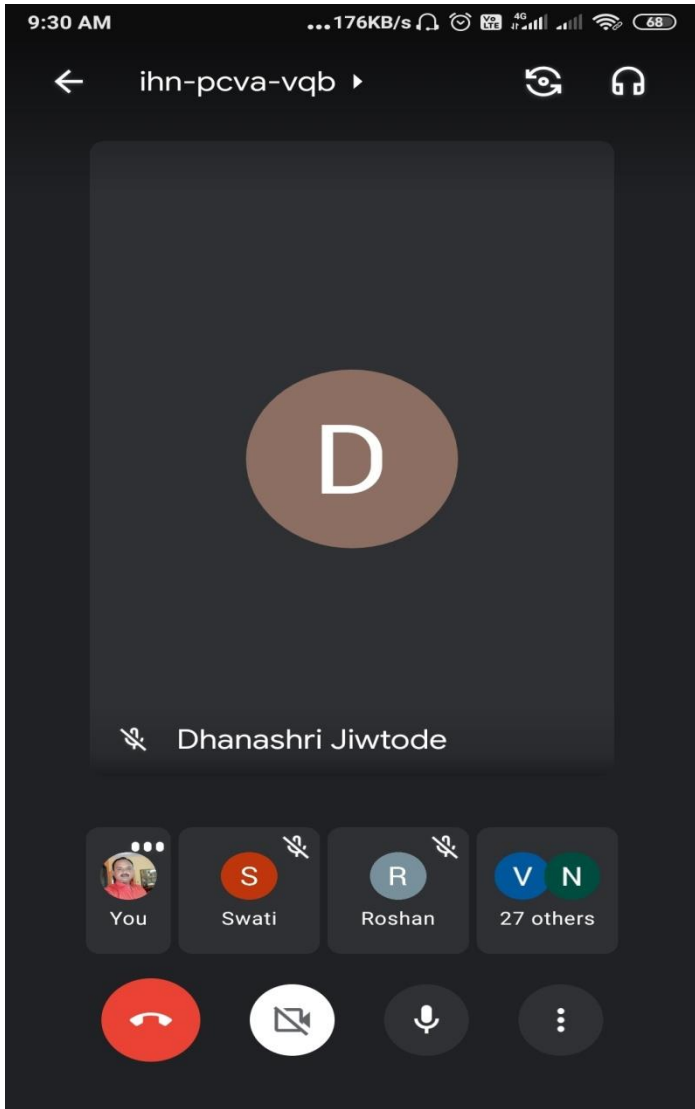


Induction Programme



-Dr. Avinash L. Pandhare

BA Sem I (A) – 2021-22





Add class comment

 **Sandesh Tiple** 
8 Dec 2021

Lecture 2 on the man in black

 2 attachments

Add class comment

 **Sandesh Tiple** 
23 Oct 2021

Lecture 1 on the man in black

 1 attachment

Add class comment

 **Sandesh Tiple** 
9 Oct 2021

8th Lecture on Of Studies

 1 attachment

UNIT I (A) Hydrides Of Boron

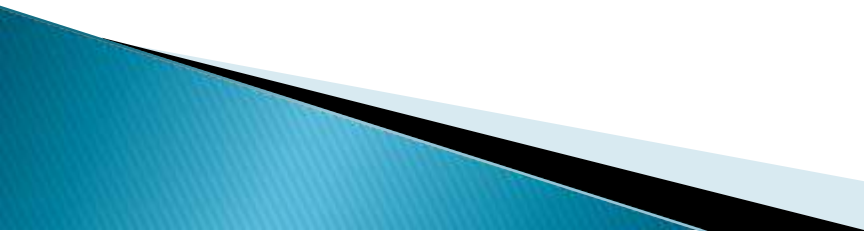
STRUCTURE AND BONDING IN BORAZINE

Saroj Sahare

Assistant Professor

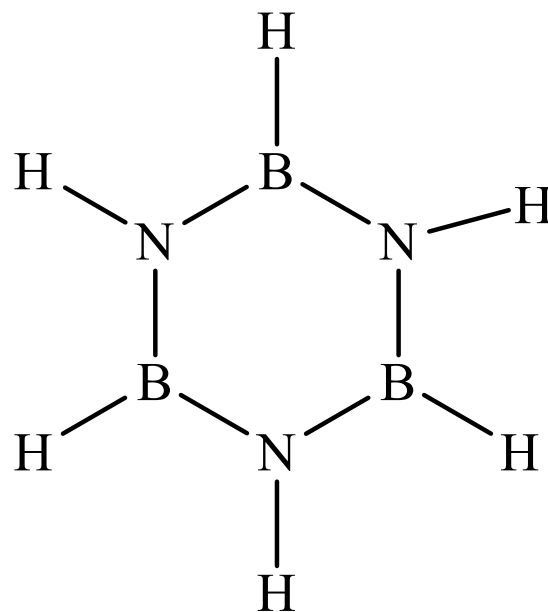
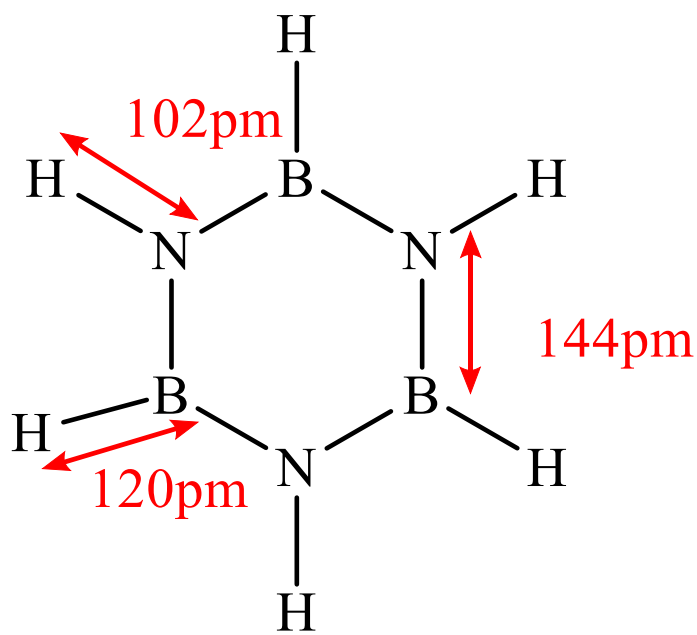
Anand Niketan College, Warora

Borazine (Inorganic Benzene)

- ▶ *Formula: $B_3H_6N_3$*
 - ▶ *Polar inorganic compound*
 - ▶ *Cyclic structure*
 - ▶ *Alternate three BH units and three NH units*
 - ▶ *Isoelectronic with Benzene*
 - ▶ *Isostructural with Benzene*
 - ▶ *Borazine is a colourless liquid*
 - ▶ *Aromatic smell*
 - ▶ *Aromatic compound*
- 

Borazine (Inorganic Benzene)

▶ Formula: $B_3H_6N_3$



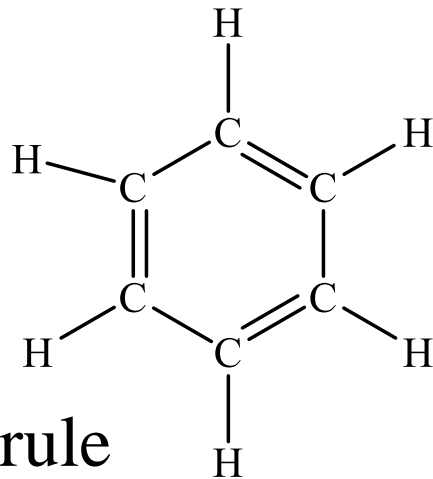
Characteristics of Aromatic Compounds

- ▶ A delocalized conjugated π system
- ▶ Coplanar structure
- ▶ Cyclic nature
- ▶ A number of delocliized electrons that is $(4n+2\pi)$ electrons this is known as Huckel rule.

Aromatic compound

▶ Benzene

▶ Cyclic



▶ Planar

▶ $(4n+2\pi)$ rule

$$\sigma \text{ bond} = 6 (\text{C-C}) + 6 (\text{C-H})$$

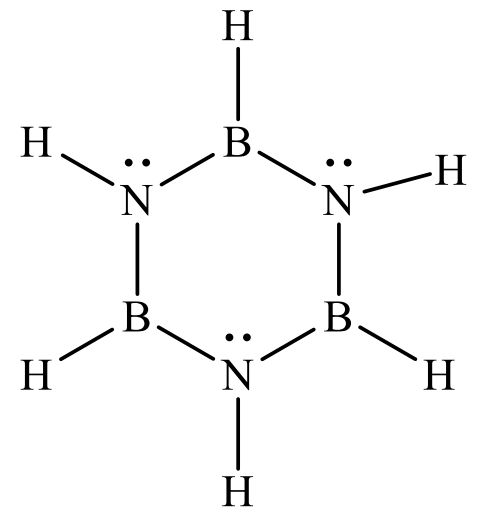
$$\Pi \text{ bond} = 3$$

$$\Pi e^- = 6$$

• Borazine

• Cyclic

• Planar

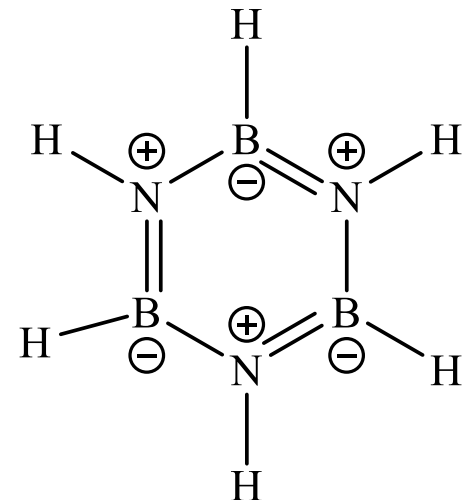


• $(4n+2\pi)$

$$\sigma \text{ bond} = 6 (3\text{B-H})(3\text{N-H}) + 6 (\text{B-N})$$

$$\Pi \text{ bond} = 3$$

$$\Pi e^- = 6$$





b) Atomic and ionic radii

Defn. - it is the distance between the nucleus of an atom to the outermost shell where probability of finding an electron is maximum. it is measured in \AA or pm.

Variation of period and in a group

- 1) Atomic radius decreases in a period and increases in a group
- 2) In period - when we move from LHS to RHS i.e from IA to IIA group elements in the same period atomic radius decreases due to increase in a nuclear charge.
- 3) In Group - When we move from top to bottom in a group from Li to Fr and from Be to Ra, the atomic radius increases due to addition of extra shell
- 4) Ionic radii is also show same trend.
- 5) IA group elements have largest atomic radii in their corresponding periods.

0:20 / 14:08



BSc Part- 1 • 2/20

Avinash Nannaware



s & p Block Elements [Video -1]

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B.Sc. Sem-V

Unit-II-Magnetic Properties of Matter

Dr. Nilesh S. Ugemuge



Syllabus-(UNIT-II -12L)

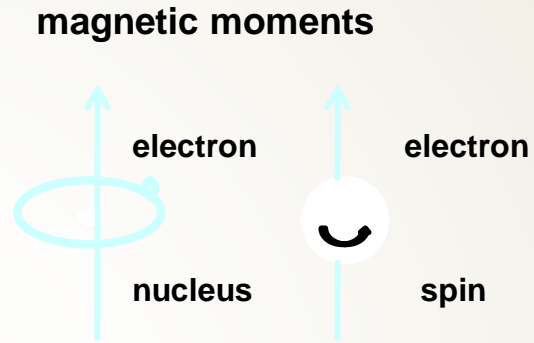
- Magnetic Properties of Matter: Dia-, Para-, Ferri- and Ferromagnetic Materials.
 - Classical Langevin theory of Dia- and Paramagnetic Domains.
 - Quantum Mechanical Treatment of Paramagnetism,
 - Curie's law,
 - Weiss's Theory of Ferromagnetism and Ferromagnetic Domains,
 - Discussion of B-H Curve, Hysteresis and Energy Loss.
- 

Why Magnetism?



Introduction(Origin of Magnetism)

- ❖ Macroscopic properties (Magnetic) are the result of electron magnetic moments.
- ❖ Moments come from 2 sources:
 - Orbital motion around a nucleus
 - Spinning around an axis



- ❖ The net magnetic moment for an atom is the sum of the magnetic moments of constituent electrons.
- ❖ Atoms with completely filled electron shells does not contribute to magnetic moment of the atom.
- ❖ The main contribution to magnetism comes fro the spin of the unpaired valence electrons.

Applications of Magnetic Materials

- ❑ **Soft Magnetic Materials** - Ferromagnetic materials are often used to enhance the magnetic flux density (B) produced when an electric current is passed through the material. Applications include cores for electromagnets, electric motors, transformers, generators, and other electrical equipment.
- ❑ **Data Storage Materials** - Magnetic materials are used for data storage.
- ❑ **Permanent Magnets** - Magnetic materials are used to make strong permanent magnets
- ❑ **Power** - The strength of a permanent magnet as expressed by the maximum product of the inductance and magnetic field.

UNIT IV - LASER

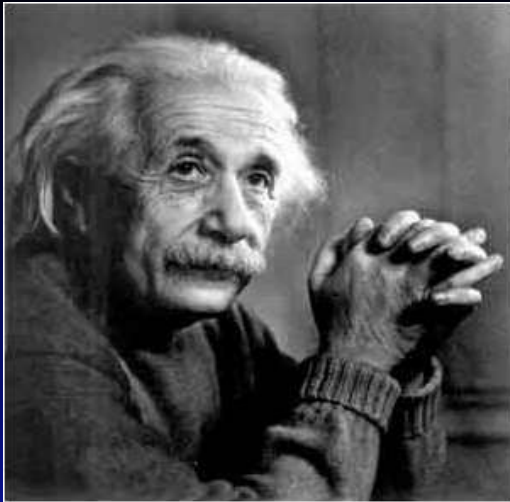


Kalyani Vitthal Atram
Assistant Professor,
Department Of Physics,
Anand Niketan College,
Anandwan, Warora



LASER

Light Amplification by
Stimulated Emission of
Radiation.



The idea of laser is based on Albert Einstein theory of light.



Laser was developed first time by Gordon Gould in 1957



The first Laser was fabricated by Maiman in 1960

PROPERTIES OF LASER

- Coherence
- Directionality
- Intensity
- Monochromaticity