Assignments/Class Tests 2020-2021

Netaji Nagar Day College

Department of Electronics Class Test of 1st Semester, 2021.

Time: 40 minutes

Full Marks: 20

Answer any two:

 $10 \times 2 = 20$

1.

- a) What is extrinsic semiconductor?
- b) What do you mean by conductivity and mobility of a semiconductor?
- c) What is called transition region in a p n junction diode?
- d) What is the effect of temp on V I characteristics of a p n diode?
- e) Draw the energy band diagram of an n type extrinsic semiconductor.

2.

- a) Explain the difference between metal, semiconductor and insulator using energy band diagram.
- b) Write down the Shockley's equation for a p –n junction diode. Draw the energy band diagrams of a p-type and n-type semiconductor.

[4+(2+2+2) = 10]

3.

- a) What do you mean by rectification? Draw the circuit diagram of a full wave rectifier and explain the operation the circuit.
- b) What is the PIV of a rectifier circuit?

[(2+2+4)+2=10]

Assignments

Class Test_PHSA

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Assignments - Mathematics

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Assignments -Mathematics

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Assignment

Math Hons (Sem 2)

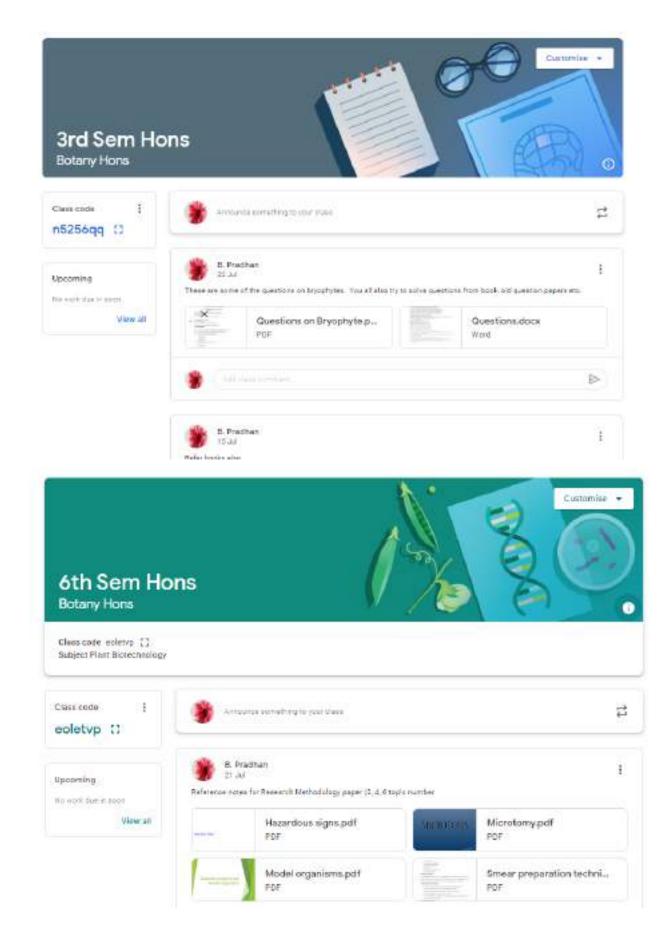
Real Analysis

Answer these questions:

- 1. Give an example of an unbounded sequence with two subsequences one of which is convergent and other is divergent.
- 2. Give examples of two non-convergent sequences $\{x_n\}$ and $\{y_n\}$ such that the sequence $\{x_n, y_n\}$ is convergent.
- 3. State the Archimedean Property of R and prove it.
- 4. If $\lim_{n \to \infty} (b_n a_n) = 0$, find $\lim_{n \to \infty} \frac{a_n}{b_n}$ where $b_n > 1$ for all n.
- 5. Justify the statement: "Every interior point of a subset of R is its limit point".
- 6. Prove that a Cauchy sequence is bounded. Is the converse true? Justify your answer.
- 7. Prove or disprove: $\lim_{x \to 0} \frac{1}{e^{1/x} + 1}$ exists.

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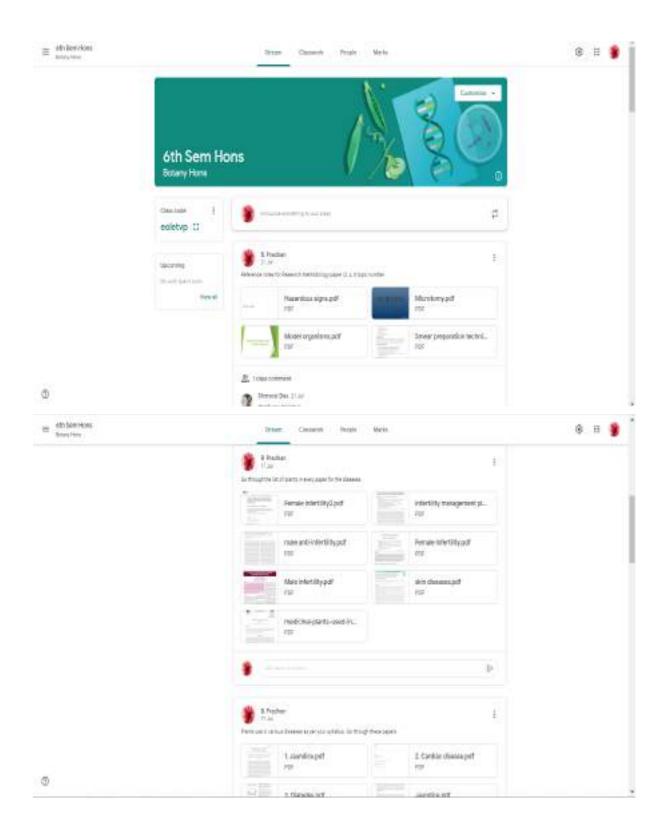
(Dr. Bhumika Pradhan, Assistant Professor, Dept. of Botany)

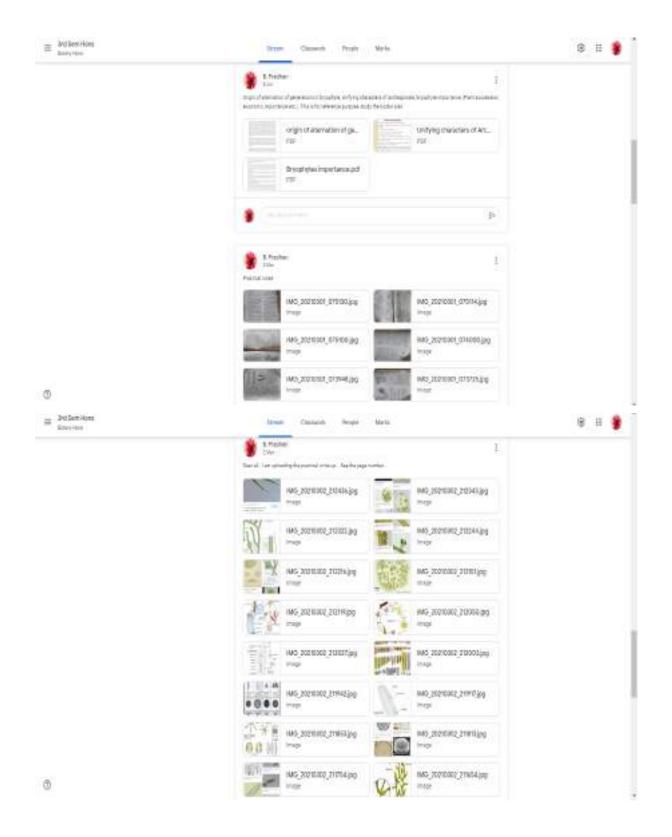


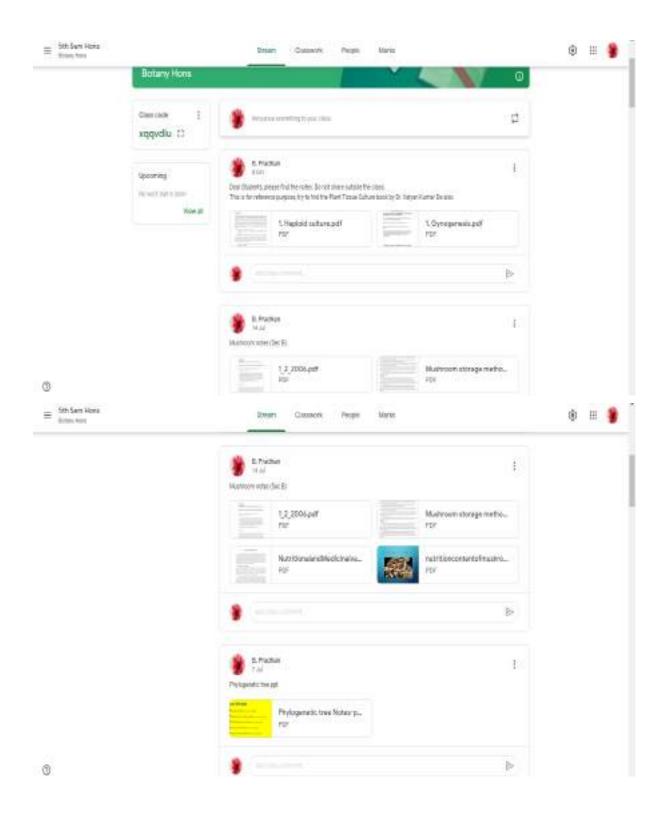
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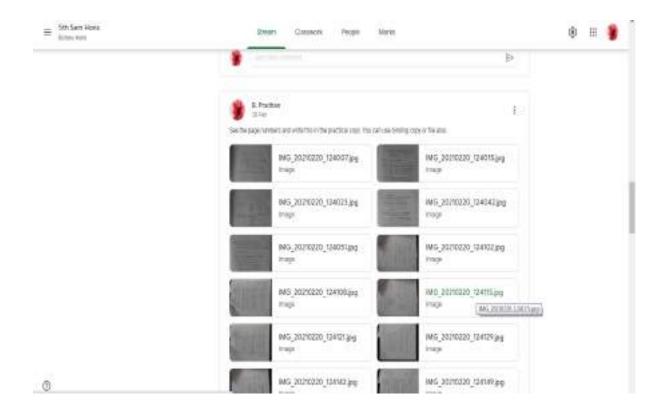
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Screenshots of Assignments submission

(Dr. Bhumika Pradhan, Assistant Professor, Dept. of Botany)

