Experimental Learning Of Botany Student

You started a call

Anurag Chavan

The lecture was good , I really appreciate the efforts of madam. Overall the lecture was really understandable.

2:02 pm

Patil Pruthviraj

I really enjoyed all of the readings and found they were diverse and inclusive. I learned a lot. Thank you for allowing us the space to not only have dialogue, but be creative within our assignments as well.

2:06 pm

Chavan Anand

The lecture was good , I really appreciate the efforts of madam. Overall the lecture was really understandable.

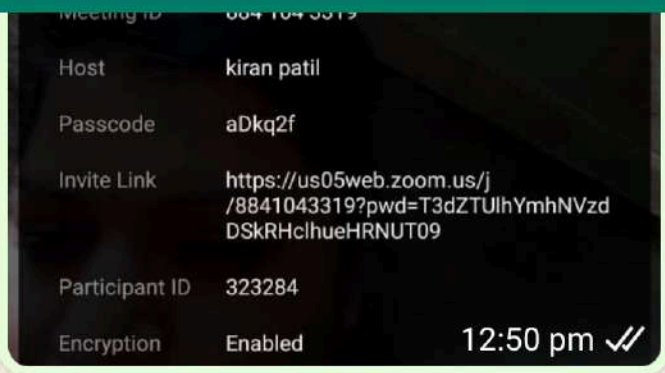
2:06 pm

Sathe Rohan

Forwarded

Thank you so much for your time and patience. You definitively love to teach. I am usually very very anxious about approaching professors, but you make things very simple and human. You are a great instructor: organized, responsive, patient and able to clearly explain complex topics and nuances.

2:10 pm



K.Bhosale ❤️❤️
Hiii 1:10 pm

Aishwarya Pawar
This message was deleted 1:10 pm

K.Bhosale ❤️❤️
Zal ka chalu 1:11 pm

You started a call

You started a call

K.Bhosale ❤️❤️
Mast zal madam lecture consept clear zalya aamchya 2:01 pm

Aishwarya Pawar
All concept clear 2:01 pm

Lecture is Very good 2:03 pm

Patil Sandhya
All concept clear mam khup chan shikavlat tumhi 2:07 pm

Message

kiran patil's Personal Meeting Room

Meeting ID	884 104 3319
Host	kiran patil
Passcode	aDkq2f
Invite Link	https://us05web.zoom.us/j/8841043319?pwd=T3dZTUlhYmhNVzdDSkRHclhueHRNUT09
Participant ID	290755
Encryption	Enabled

You are connected to Zoom Global Network via data centers in the United States.

Security Settings Overview

1:51 PM

Participants (8)

- KP kiran patil (Host, me)
- AP Aishwarya pawar
-  Anand Chavan
- A Anurag
- KB Komal bhosale
- SP sandhya patil
- PP pruthviraj Patil
- RS Rohan Sathe

Invite | Mute All | ...

- Following are list of Link of Lectures Uploaded On youtube channels (Hemuji Chandele College ,Shelgaon R)

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2. https://www.youtube.com/watch?v=HzSCdO3DqaU
3. https://www.youtube.com/shorts/j4E6TLLhp94
4. https://www.youtube.com/watch?v=Hl33dov-4vQ
5. https://www.youtube.com/watch?v=9Fvo9oKtQb0
6. https://www.youtube.com/watch?v=g7Q7kYMym_4
7. https://www.youtube.com/watch?v=QqE9UrZgUsQ
8. https://www.youtube.com/watch?v=cth-5_QxEZc

Ecology

All living organism, whether plant or animal or human being is surrounded by the environment on which it derive its needs for its survival.

Each living component interacts with non –living components for their basic requirements form different ecosystem.

Ecosystem is the basic functional unit of ecology. The term ecosystem is coined form a Greek word meaning study of home.

Definition

A group of organisms interacting among themselves and with environment is known as ecosystem. Thus an ecosystem is a community of different species interacting with one another and with their non living environment and one another and with their non- living environment exchanging energy and matter.

Example

Animals cannot synthesis their food directly but depend on the plants either directly or indirectly.

TYPES OF ECOSYSTEM- Natural ecosystem

Natural ecosystems operate themselves under natural conditions.
Based on habitat types, it can be further classified into three types.

1. Terrestrial ecosystem

This ecosystem is related to land.

Example

Grassland ecosystem, forest ecosystem, desert ecosystem, etc.

2. Aquatic ecosystem

This ecosystem is related to water. It is further sub classified into two types based on salt content.

- Fresh water ecosystem

(i)Running water ecosystems.

Examples

Rivers, Streams

(b) Standing water ecosystems

Examples

Pond, lake

(ii) Marine ecosystem

Example :

Seas and sea shores

Man – made (or) Artificial ecosystems

Artificial ecosystem is operated (or) maintained by man himself.

Example

Croplands, gardens

- The term lotic (from lavo, meaning ‘to wash') represents running water, where the entire body of water moves in a definite direction.
- These may comprise brooks, streams, rivers and springs.
- Brook is a term used for the small body of water
- while river is a term used for a relatively large natural body of water.
- The stream is generally designated as smaller than a river but bigger than a brook.
- Spring is an issue of water from the earth, which takes the form of a stream on the surface

- The term lentic (meaning‘to make calm') is used for still waters of lakes and ponds,
- which offer environmental conditions, which differ sharply with that of the streams.
- Light penetrates only to a certain depth depending upon turbidity
- . Temperature varies seasonally and with depth
- . Because only a small portion is in direct contact with the atmosphere and because decomposition takes place actively at the bottom
- , the oxygen content of lentic ecosystem is relatively low when compared to the lotic.

CHEMISTRY

inorganic chemistry

B.SC 2 year

▪ Werner`s Theory

- APPLICATION OF WERNER`S THEORY TO COBALT AMMINE COMPLEX

- ***CoCl3.6NH3***

- ***When a solution of CoCl3.6NH3 complex is treated with AgNO3, it produces white precipitate of silver chloride (AgCl) corresponding to all three chloride ions.***

- ***When the complex is dissolved in HCl and boiled , no evolution of NH3 is observed .it indicates that all six ammonia molecule are strongly bonded with cobalt ,hence all six NH3 molecule are in coordination sphere of the complex i.e. Satisfy seconday valence of cobalt ion .***

- when the molar conductivity , of the solution is measured ,it corresponds to six charges.
- It indicates that after the dissolution complex form four ions with total six charges ,out of which three are chloride ions and one is complex ion [Co(NH3)6]+3.
- This indicates that cobalt and six NH3 molecule are in secondary sphere while three Cl- ions are in primary sphere.

- This complex, six NH3 can satisfy secondary valence ,while three Cl- ions can satisfy primary valence of cobalt ion .

- The ionization :$CoCl_3$. $6NH_3$=$[Co(NH_3)_6Cl]^{3+}$ +3Cl-.

Computer Science
Fundamental of computer
B.Sc.-I

Unit II –Green IT

Created By

Surwase J R

Environmental Impacts of IT

- Electronic waste is a major environmental issue, as it can contain toxic substances, such as lead, cadmium, and mercury, which can pollute the environment and harm human health.
- The environmental impact of **technology does not end with the raw materials and where they have come** from.

Holistic Approach to Greening IT,

- Green IT has to be considered holistically in order to ensure added value for your company and to face the challenges in near future. Today the ICT-sector contributes with 2 percent of worldwide CO2-emissions - the same amount as the aviation sector.

What are green IT standards?

- Green computing (also known as green IT or sustainable IT) is the design, manufacture, use and disposal of computers, chips, other technology components and peripherals in a way that limits the harmful impact on the environment, including reducing carbon emissions and the energy consumed by manufacturers, data centers ...

Eco-Labelling

- The government launched the Eco-labelling Scheme known as the Eco Mark Scheme in 1991 to identify environment-friendly products. It is a voluntary mark labelling consumer products as environment-friendly based on specific quality and environmental parameters.28-Feb-2023

Green IT Strategy

- **The green computing strategies of companies can also include the following actions, both in and beyond the data center:**
- Deployment of smart technology. ...
- Powering down IT equipment when it isn't in use. ...
- Strategic scheduling of computer use. ...
- Energy-efficient computer and display selection. ...
- Automated power management.

IT Labeling

- ***Energy Star*** is a compulsory labelling program created by the United States Environmental Protection Agency in 1992 to encourage and recognize energy savings in displays, temperature control devices, and other technology. As a response, sleep mode has become widely used in commercial gadgets.
- After that, authorities, businesses, and environmental groups have developed a slew of initiatives to encourage Green Computing. Green computing activities include hardware reuse, trash minimization, digitalization, cloud computing, power saving, and green production. The IT industry is working to accomplish Green Computing in all areas.
- Intel's 2030 plan is a common instance of this. The company is determined to gain water consumption, 100 percent green power, and zero garbage to landfills throughout Intel's worldwide production processes. The objectives are as follows:
-

Hardware:Life Cycle of a Device

Reuse, Recycle and Dispose

- In today's world, recycling outdated servers and other unused pieces of hardware that are just taking up space is one of the smartest things a business can do to contribute to the circular economy and improve its sustainability scores.
- Every organization must maintain a sustainable waste strategy, and IT hardware recycling and refurbishing should play a very important role in it. Government regulations and WEEE directives are specially designed to deal with hazardous waste and dispose of IT equipment, from computer monitors to all types of devices, in an environmentally responsible manner.
- **The need for recycling computers**
- There are several good reasons for recycling IT hardware, ranging from environmental good practices to business strategy that can help organizations optimize their IT budgets. The process offers several benefits:
- Reducing the volume of waste material which gets dumped illegally.
- Cutting down the amount of raw materials required to manufacture new products as well as the greenhouse gas emissions emitted into the atmosphere during their manufacturing process.
- Refurbished computer equipment can benefit people and organizations that cannot afford to buy new IT equipment, as well as those that simply want to optimize their budget and increase their ROI.

- **What is the e-waste in your hardware?**
- First of all, we need to understand what constitutes e-waste. The term is a popular and informal name for electronic products nearing the end of their useful life, and as we have already seen, many of these products can be reused, refurbished, or recycled.
- The materials found in a piece of data center IT equipment include plastic (23%), ferrous metals (32%), non-ferrous metals (18%), electronic boards (12%) and glass (15%). A single piece of equipment may contain up to 2kg of lead, as well as other highly toxic and hazardous elements like cadmium, mercury and chromium, which can do harm to the environment and both animal and human life if they are thrown away. This complex mixture of materials found in the components can make IT hardware very difficult to recycle.
- The WEEE (Waste Electrical and Electronic Equipment) directive, which became European Law in February 2003, sets collection, recycling and recovery targets for all types of electrical goods.
- It is for this reason that it's advisable to hire the services of a company that follows the WEEE directive when recycling computers or engaging in any other type of electronic recycling.
- The focus of IT recycling should be to dispose of unused/unwanted IT spares, old electronics or other items in an environmentally sustainable way, which means, among other things, preventing it from ending up in a landfill, where its valuable materials cannot be reused and only contribute to harming the environment and filling up the world with additional waste.
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- **How to go about recycling your IT hardware?**
- For most companies, the best way of recycling hardware responsibly is to engage the services of an enterprise that specializes in recycling, refurbishing and reusing IT equipment. This will ensure, among other things, compliance with the regulations in place in the country where the company is located.
- The Department for Environment, Food and Rural Affairs (Defra) advises companies to contact a certified disposal specialist. The reusable hardware is carefully dismantled and sorted according to type. All the useful metals are then separated. Materials like steel and aluminum can be recycled to make car parts or for engineering purposes, whereas non-reusable substances are disposed of in an environmentally sound manner.

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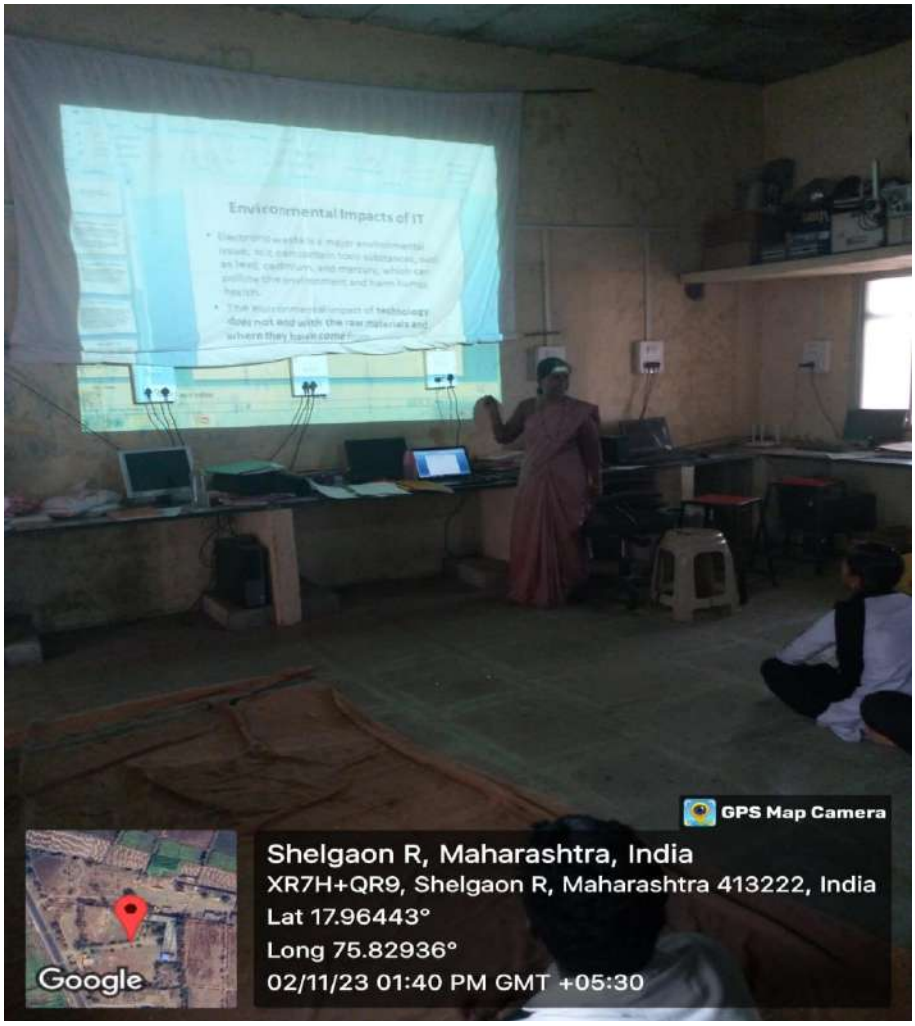

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Participative Learning
Seminar of Chemistry

Seminar Of Computer Science

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Seminar of Microbiology

Seminar Of Mathematics

Presentation by

Patil m.m

content

- Food chain
- Pond ecosystem
- Food chain
- Ecological pyramid
- Energy flow
- Ecological sucession

What is a Food Chain?

- A food chain is the path by which energy passes from one living thing to another.

What's in a Food Chain?

- Producers
- Consumers
- Decomposers

Producers

- Producers make their own food
- Green plants use energy from the sun to make food
- Producers are on the bottom of the food chain

Consumers

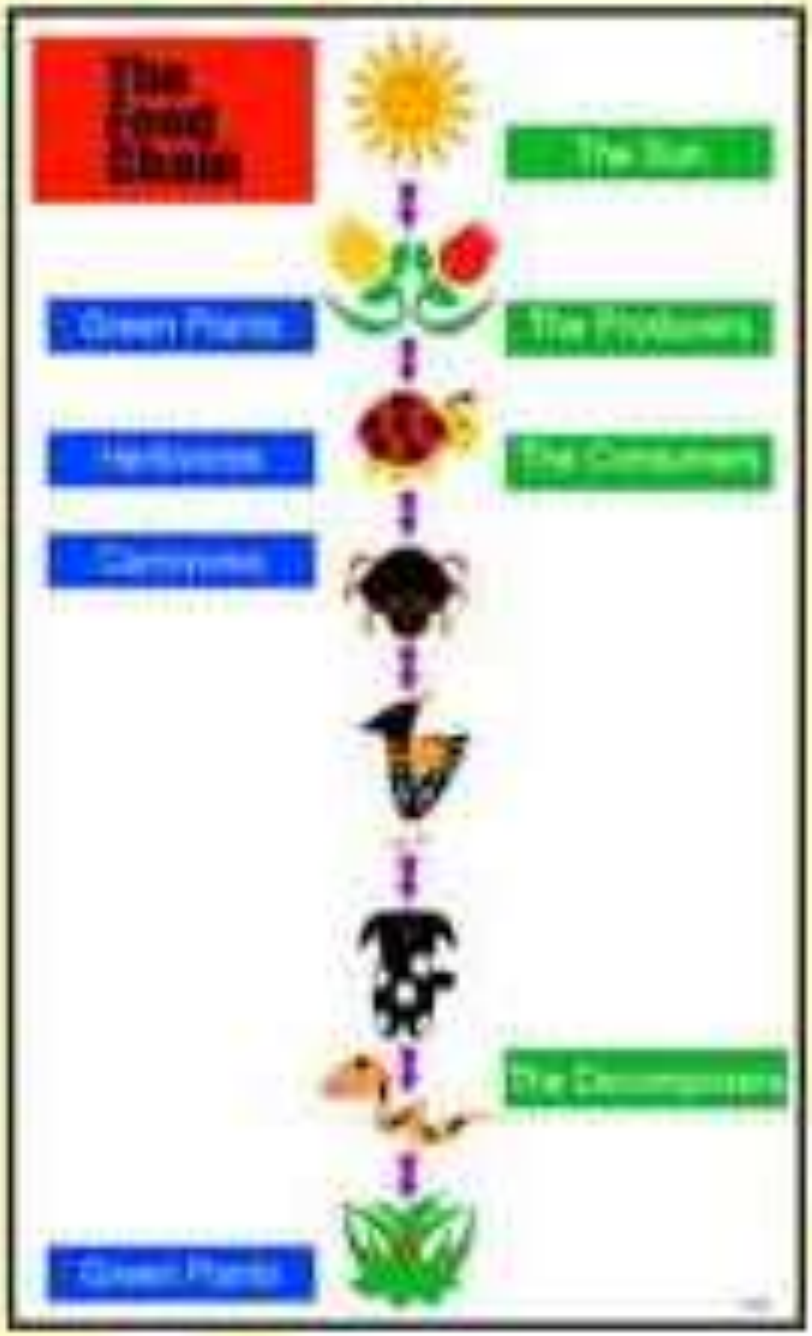
- Consumers hunt, gather, and store food because they cannot make their own.

Decomposers

- Microorganisms that are able to break down large molecules into smaller parts
- Decomposers return the nutrients that are in a living thing to the soil

Let's Look at a Food Chain

- A food chain is a simplified way to look at the energy that passes from producers to consumers.



Types of Food Chains

- Aquatic- Water-related food chains with sea plants and animals

- Terrestrial- Land-related food chains with land plants and animals

FRESH WATER ECOSYSTEM POND ECOSYSTEMS

- Introduction
- A pond is a fresh water aquatic ecosystems, where water is stagnant. It receives enough water during rainy season.
- It contains several types of algae, aquatic plants, insects, fishes and birds.

- Characteristics of pond
- • Pond is temporary, only seasonal.
- • It is a stagnant fresh water body
- . • Ponds get polluted easily due to limited amount of water.
- • Pond ecosystems are lentic ecosystems – i.e. they involve stagnant or standing water.

Structure and functions of pond ecosystems

Abiotic components

Ex: Temperature, light, water and organic and inorganic compounds

Biotic Components •

Producers

These include green photosynthetic organism. They are of two types.

• Phytoplankton: These are microscopic marine plants, which freely float the surface of water.

Ex: Floating plants like Nostoc, Anabena, Consmarium.

• Microphytes are microscopic algae

Ex: Floating plants and submerged plants like hydrilla, Jussiaea, wolfia, mna.

- Consumers

- Primary consumers (Zooplanktons): These are microscopic animals which freely float on the surface of water. Zooplanktons are found along with phytoplankton. They feed on plants (phytoplankton).

- Ex: Protozoa, very small fish, ciliates, flagelaltes and protozoans. Secondary consumers (Carnivores):They feed on zooplankton

- Ex: Insects like water beetles and small fish. Tertiary consumers :They feed on smaller fish Ex: Large fish like game fish

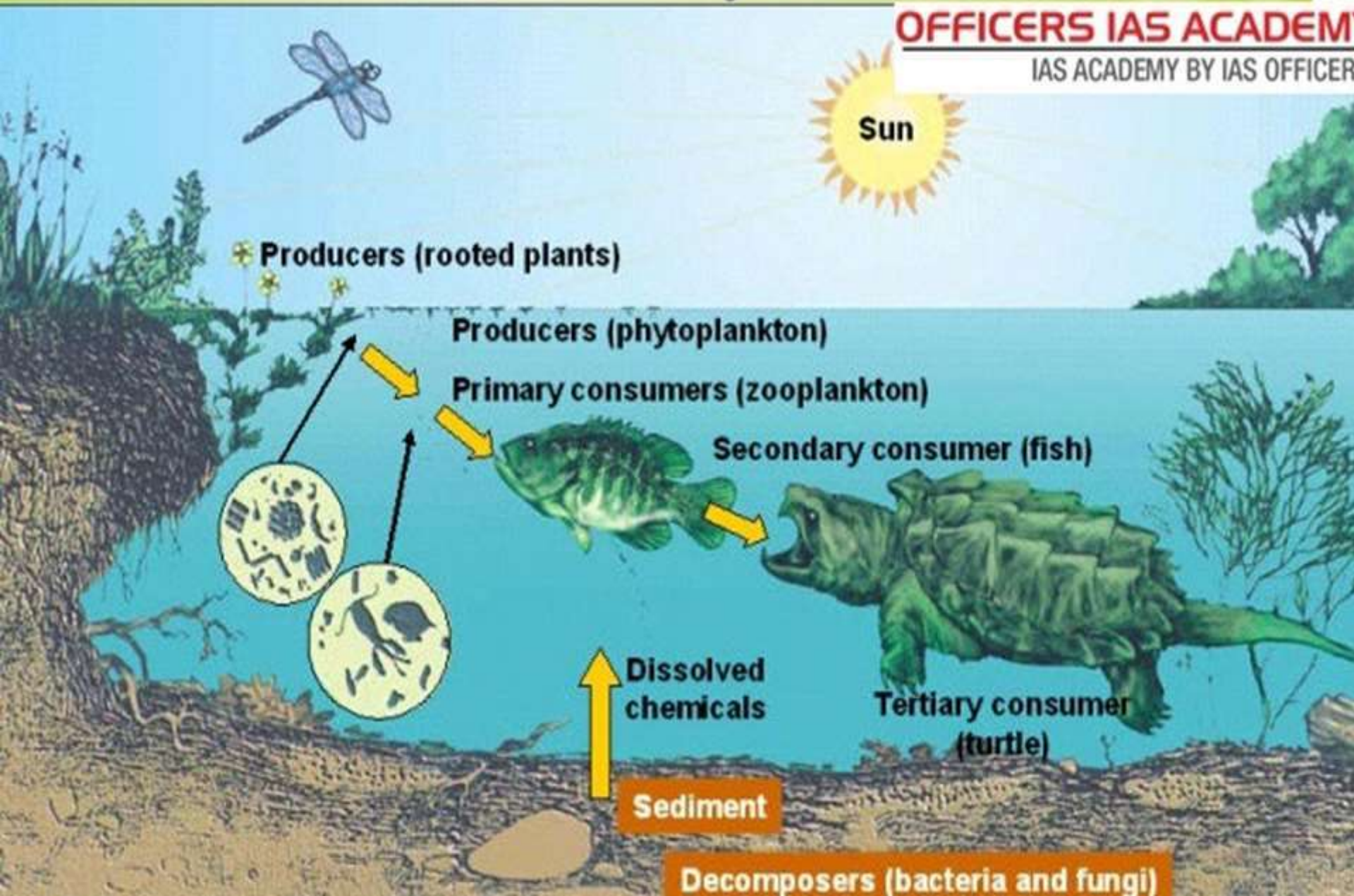
- . Decomposers: They decompose the dead plant and animal matter and their nutrients are released and reused by the green plants.

- Ex: Fungi, bacteria and flagellates

-

-

Pond Ecosystem



- ECOLOGICAL PYRAMIDS
- • “Graphical representation of structure and function of tropic levels of an ecosystem, starting with producers at the bottom and successive tropic levels forming the apex is known as an ecological pyramid.”
- • In food chain starting from the producers to the consumers, there is a regular decrease in the biomass and number of the organisms.
- • Since energy is lost as heat in each tropic levels, it becomes progressively smaller near the top.

Types of Ecological pyramids

- Pyramid of numbers.
- Pyramid of energy.
- Pyramid of biomass

- A pyramid of number can be used to show the number of organism at each stage of a foochain
-

Pyramid of biomass

- A biomass pyramid is the representation of total living biomass or organic matter present at different trophic levels in an ecosystem. Biomass is calculated as the mass of living organisms present at each trophic level in a given sample size. It can be represented as dry weight in grams or calories per unit area.

- Energy flow
  - is the flow of energy through living things within an ecosystem. All living organisms can be organized into producers and consumers, and those producers and consumers can further be organized into a food chain. Each of the levels within the food chain is a trophic level.
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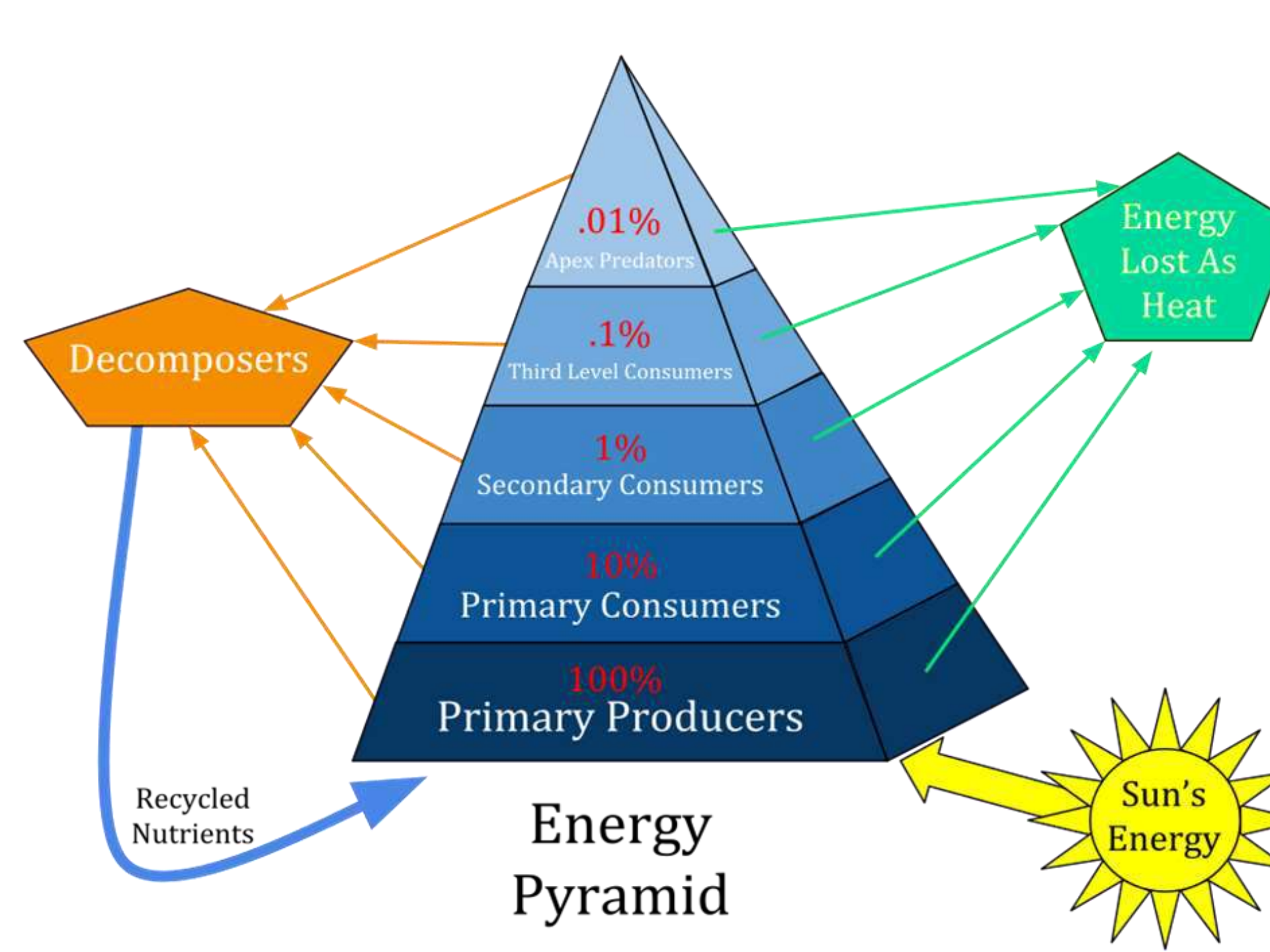

Energy Pyramid

What is Ecological Succession?

ECOLOGICAL SUCCESSION IS

The observed process of change in the species structure of an ecological community over a period of time

What is Ecological Succession

- Ecosystems are constantly changing. ***Ecological succession*** is a gradual process of change and replacement of the types of species in a community.
- Each new community makes it harder for the previous community to survive.

Types of Ecological Succession

- There are two main types of Ecological Succession:
- **Primary Succession**

It is the process of creating life in an area where no life existed earlier.

Primary Succession

- An example of an area in which a community has never lived before, would be a new lava or rock from a volcano that makes a new island.

Primary Succession

- Begins in a place without any soil, like:
  - Sides of volcanoes
  - Landslides
  - Flooding
- Starts with the arrival of living things such as lichens that do not need any soil to survive.
- They are called ***Pioneer Species***

Primary Succession

Secondary Succession

- ***Secondary Succession***
  is the process of re-stabilization that follows a disturbance in an area, where life has formed an ecosystem.

- *Thank you*

Introduction of Group

In this chapter we shall study the algebric object called group. Group is a fundamental building blocks of abstract algebra. Apart from group there areseveral algebric structures like rings, field, vector space, modules,etc. however we start our study with group because group is one operational system, and it hassimple formal description.

In any algebric system, we start with a non-empty set and equip it with some algebric operation. Algebric operation, which may be combining two elements of the set gives again an element of set, is called a binary operation. We study the binary operation first in this chapter. We assume that these algebric operations are subject to some certain rules. These rules are called axioms. Or postulates, defining the algebric system.

Binary operation

- Let A be a non-empty set. A function $f:A\times A\rightarrow A$ is called a binary operation on A. If $(a,b)\in A\times A$ then f(a,b) is usually denoted by a*b, a.b or simply ab and called product or multiplication. Some times f(a,b) is denoted by a+b also.
- If $(a,b)\rightarrow a*b$ defined a function that, if $(a,b)\in A\times A$, there exists a unique $a*b\in A$ then A is said to be closed under*.
- Example:
- 1. $f:Z\times Z\rightarrow Z$ as f(a,b) = a+b define a function and hence + is a binary operation on Z. on the same way + defines binary operation on N,R,Qetc. Similarally , multiplication defines a binary operation on these sets.
- 2. f(a,b)=(a-b) is not a binary operation on N, Z^{+},Q, R since a –b may be an element of these sets even thogh $a,b\in N$.
- 3. f(a,b)=a/b is not a binary o[peration on I.

Group

- Definition: A group is an ordered pair (G,*) where G is any non-empty set and * is a binary operation satisfying follwing four axioms.
- G1: Closure axioms:
- For all a,bϵG then a*bϵG.
- G2: Associative axioms:
- For all a,b,cϵQ
- a*(b*c)=(a*b)*c

Group

- G3: Identity axiom:
- For any aϵG then there exist an elements eϵGsuch that,
- a*e=e*a=a
- Then e is known as an identity elements of G with respect to given binary operation*.
- G4: Inverse axios:
- For any non-zero elements aϵG then bϵG such that
- a*b=b*a=e
- Then be is known as an inverse elements of a and is denoted by b=a´

Group

- Definition: A group (G,*) is said to be abelian or commutative group, if a*b=b*a for all a,bϵG

Finite and Infinite Groups and order of Finite Group

- Let(G,*) be a any group, where G is any non-empty set. Then the number of elements of G is called the order of the group and is denoted by O(G).
- If order of the group is finite then such groups are called finite and otherwise they are called infinite group.
- It should be noted that the smallest group for given composition is the set{e} consisting of identity elements e alone in this caser order of the group is 1 and is finite group.

Basic Properties of Group

- Theorem1: The identity elements in a group is unique.
- Theorem2: The inverse of each element in a group is unique.
- Theorem3: If the inverse of a is a is a′ is a i.e.
- Theorem4: The inverse of the product of two elements of a group G is the product of the inverse taken in the reverse order

- Following are list of Link of Lectures Uploaded On youtube channels (Hemuji Chandele College ,Shelgaon R)

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5. https://www.youtube.com/watch?v=9Fvo9oKtQb0
6. https://www.youtube.com/watch?v=g7Q7kYMym_4

POPULATION ECOLOGY

Why is it important for scientist to describe natural populations?

POPULATION ECOLOGY

What is population ?

A group of individual of the same species of organisms that occupy the same area, using the same resources and acted upon by the same environmental factors

POPULATION ECOLOGY

POPULATION ECOLOGY

- Population ecology is the study of populations in relation to the environment. It includes environmental influences on population density and distribution, age structure, and variations in population size.

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Department Of PHYSICS

Paper : II optics

Name of chapter : LASER

- **Introduction**
- **Three Quantum Processes**
- **Types of LASER**
- **Properties of LASER**
- **Applications of LASER**

Dindore P.A

*The word LASER stands for Light Amplification by Stimulated Emission of Radiation

*Laser technology is the science that deals with the concentration of lighjt into small but powerful beams

*The first optical Laser was developed by Maiman in 1960 using Ruby, so it is called Ruby Laser

Three Quantum Processes

1) Absorption of radiation

consider two energy levels of energies E1 and E2 resp. such that E2>E1 of an atom.

The process is expressed as A + hv = A*
Where A is an atom in the lower state and A* is an excited atom.

Spontaneous emission of radiation

An atom in the higher energy state E2 return
s to the ground state by emitting the excess energy spontaneously.

No external radiation was used in the process.

The rate of spontaneous emission is directly propotional to the population of the energy level E2

The emission is called spontaneous because it takes place without any stimulus.

Types of LASERS

Depending upon the nature of active material, different types of lasers are as follows

1)crystalline solid state laser

2) Gas laser

3) Semiconductor laser

4) Liquid dye laser

5)chemical laser etc.

Ruby laser

Ruby laser is a crystalline solid state laser. The first ruby laser was fabricated by Maiman in 1960.
It consist of a single cylindrical crystal of ruby used as a active material.
The resonator cavity is formed by making one face of the rod fully reflecting and other partially reflecting by silvering.

Properties of Laser

The laser beam is perfectly coherent(both temporal and spatial coherence)

Laser radiation is highly monochromatic in nature

Laser spectrum is well defined and sharp since the spectral line width is extremely small.

The quality factor Q of laser is 104 times more than spontaneously emitted light.

Laser beam has high directionality.

Applications of Laser

#Communication system : Laser can be used as carrier waves. Large number of channels of message can be mounted on carrier waves to large distance.

#Computers : The storage capacity of information or memory and performance of computers can be increased.

#It is used to measure earth moon distance

#in chemisty to study crystal structure, in medicine it can be used in microsurgery.It is used to destroy harmul tissues in microbiology.

#In industry, it is used welding, drilling, hardening

Laser

Processes involved

Spontaneous emission

Stimulated emission

Types of laser

Crystalline ex, Ruby laser

Properties

directionality

Applications

In industry, medical,

TCA Cycle

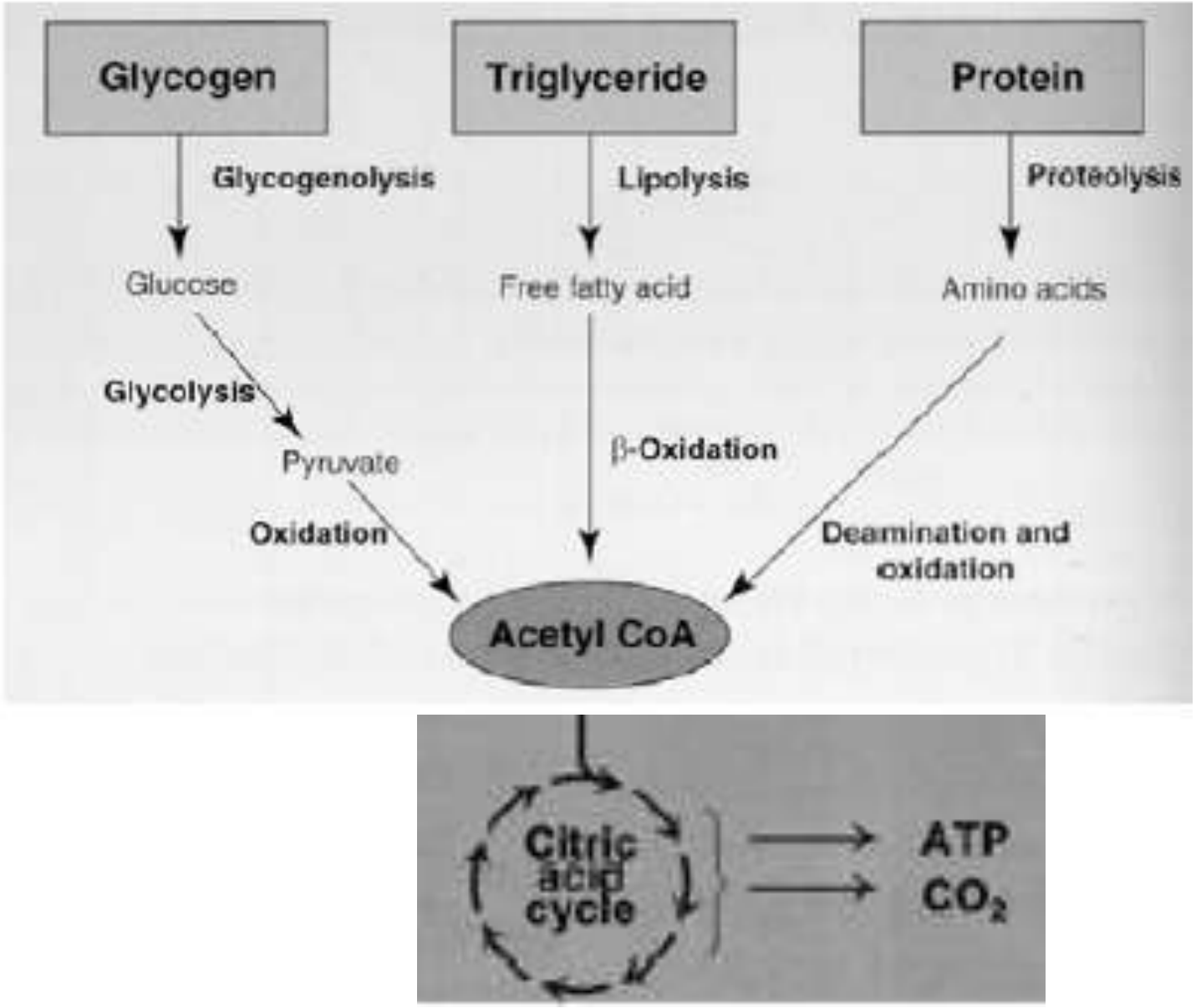
History

Discovered by Hans Krebs in 1937

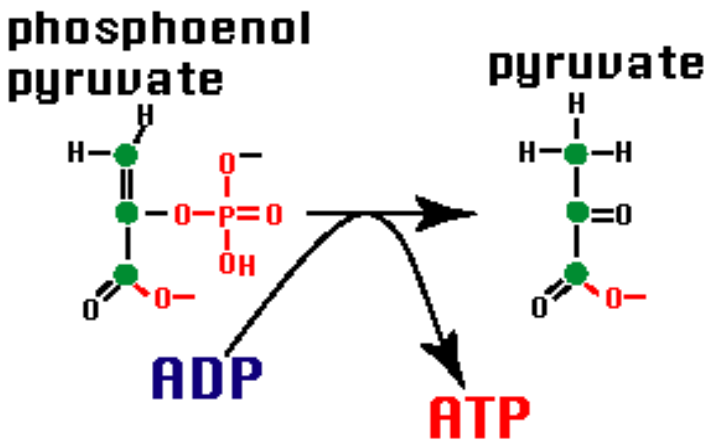
He received the Nobel Prize in physiology or medicine in 1953 for his discovery

Forced to leave Germany prior to WWII because he was Jewish

- Most of cells energy comes from oxidation of A.CoA in mitochondria
- Glycolysis oxidizes sugar to pyruvate which is converted to A.CoA in mitochondria
- Proteins and fatty acid are also broken down to yield A.CoA
- Acetyl units oxidized to CO2 in mitochondrial matrix by TCA cycle
- Energy released during oxidation captured by NAD+ (Nicotinamide adenine dinucleotide) and FAD (Flavin adenine dinucleotide) > Carried to ETC for synthesis of ATP (oxidative phosphorylation)

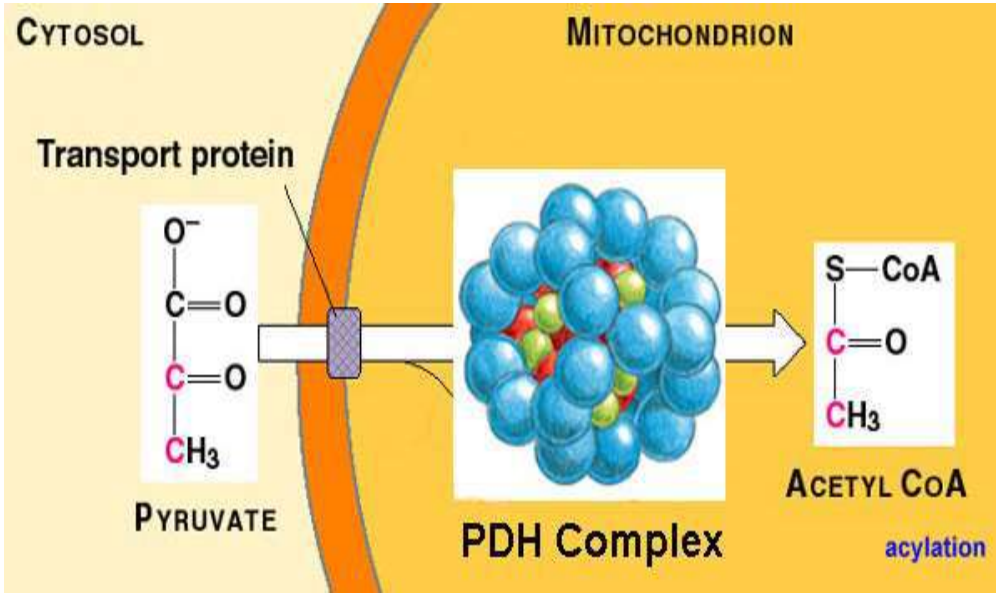

Glycogen
Triglyceride
Protein
Glycogenolysis
Lipolysis
Proteolysis
Glucose
Free fatty acid
Amino acids
Glycolysis
Pyruvate
β-Oxidation
Oxidation
Deamination and oxidation
Acetyl CoA
Citric acid cycle
ATP
CO_2

RXN 10 Glycolysis



Pyruvate produced from glycolysis must be decarboxylated to A. CoA before it enters TCA cycle

Catalyzed by large enzyme
-Pyruvate dehydrogenase complex (mitochondrial matrix)



$$\text{Pyruvate} + \text{CoA} + NAD^+ \longrightarrow \text{A. CoA} + CO_2 + NADH + H^+$$

Control of the Pyruvate Dehydrogenase complex

- Regulation by its products

  > NADH & Acetyl-CoA : inhibit

  While

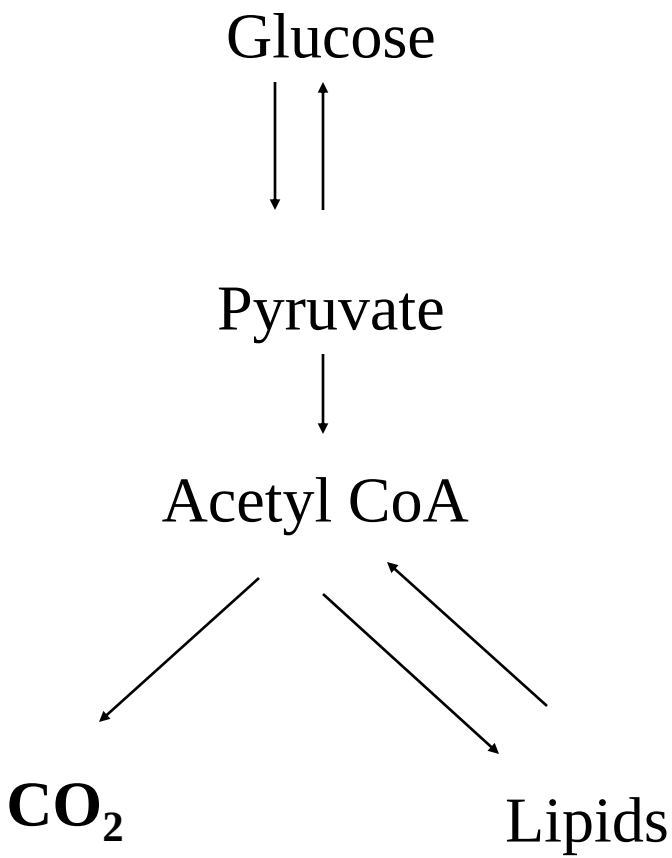
  >NAD^+ & CoA stimulate

- Regulation by energy charge

  > ATP : inhibit

  While

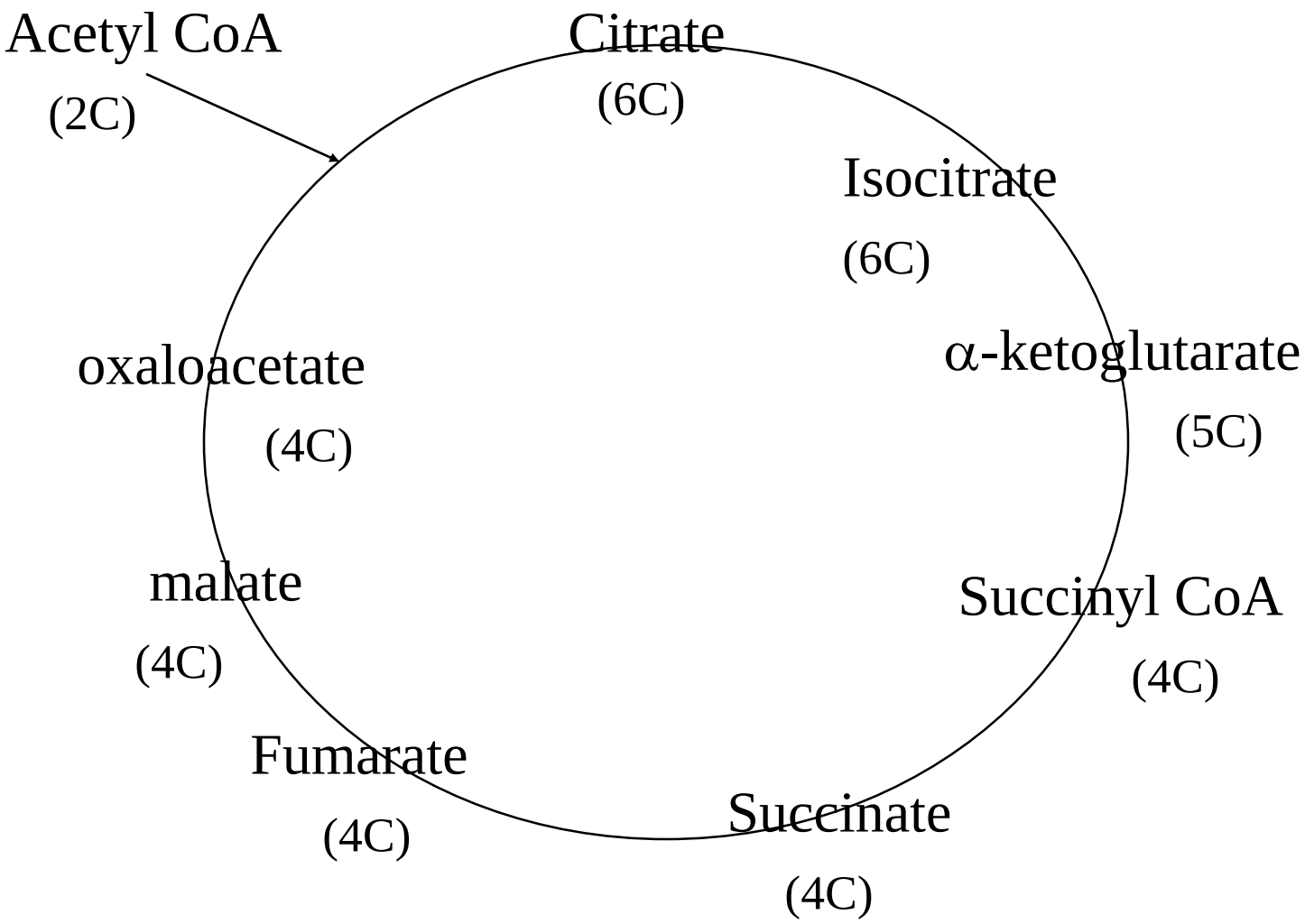
  > AMP : stimulate


Glucose
Pyruvate
Acetyl CoA
CO_2
Lipids

Overall rxn

- Acetyl CoA + $3NAD^+$ + FAD + GDP + Pi + $2H_2O$

- $2CO_2$ + CoA + 3NADH + $FADH_2$ + GTP + H^+


Acetyl CoA
(2C)
Citrate
(6C)
Isocitrate
(6C)
α-ketoglutarate
(5C)
Succinyl CoA
(4C)
Succinate
(4C)
Fumarate
(4C)
malate
(4C)
oxaloacetate
(4C)

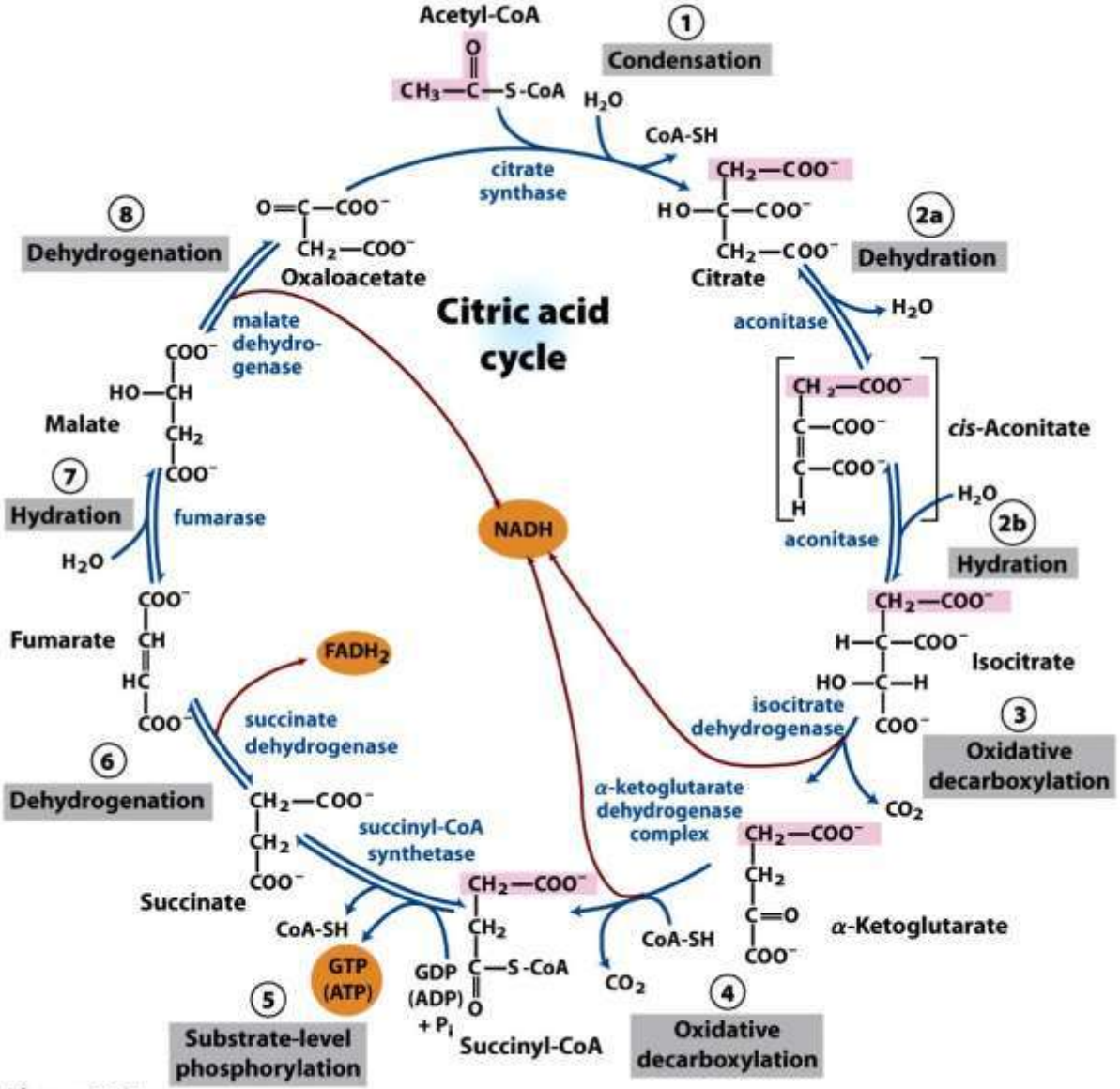


Figure 16-7

Lehninger Principles of Biochemistry, Fifth Edition

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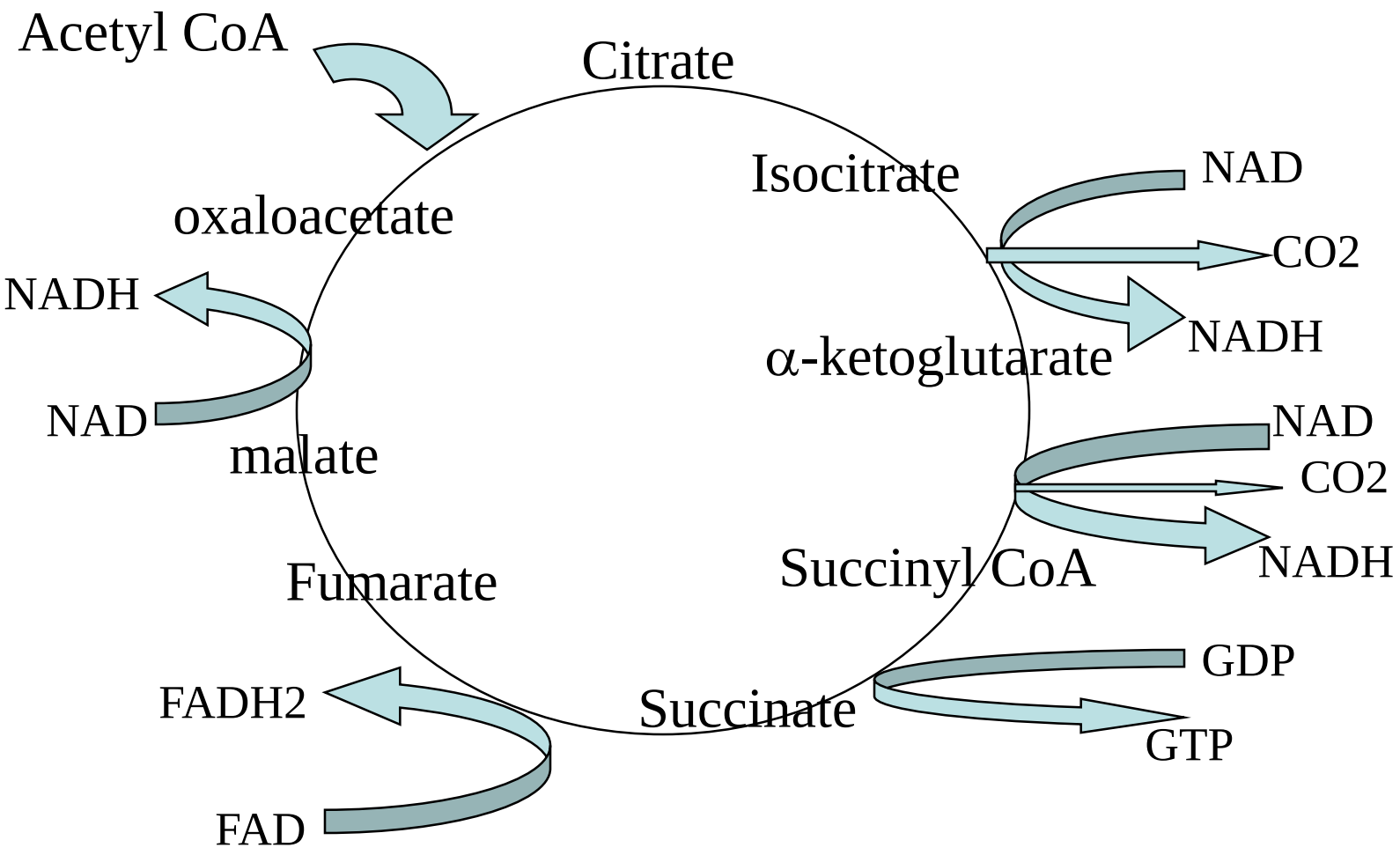
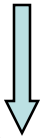

Acetyl CoA
Citrate
Isocitrate
NAD
CO2
NADH
α-ketoglutarate
NAD
CO2
NADH
Succinyl CoA
GDP
GTP
Succinate
FADH2
FAD
Fumarate
malate
NAD
NADH
oxaloacetate

Regulation of Citric Acid Cycle

- 3 Control sites

Regulation of Citric Acid Cycle con't
Site 1 - rxn 1

Acetyl CoA + Oxaloacetate



Citrate

- Enzyme: citrate synthase
- Inhibited by ATP

Regulation of Citric Acid Cycle con't
Site 2 - rxn 3

- Isocitrate ⟹ α-Ketoglutarate

- Enzyme: isocitrate dehydrogenase
- Inhibited by ATP & NADH
- Stimulated by ADP & NAD^+

Regulation of Citric Acid Cycle con't
Site 3 - rxn 4

- α-Ketoglutarate ⟶ Succinyl CoA

- Enzyme: α-Ketoglutarate dehydrogenase
- Similar to PDH complex
- Inhibited by Succinyl CoA & NADH also high-energy charge.

Regulation of Citric Acid Cycle Summary

- IN GENERAL THE TCA CYCLE IS INHIBITED BY A HIGH ENERGY CHARGE AND STIMULATED BY LOW ENERGY CHARGE

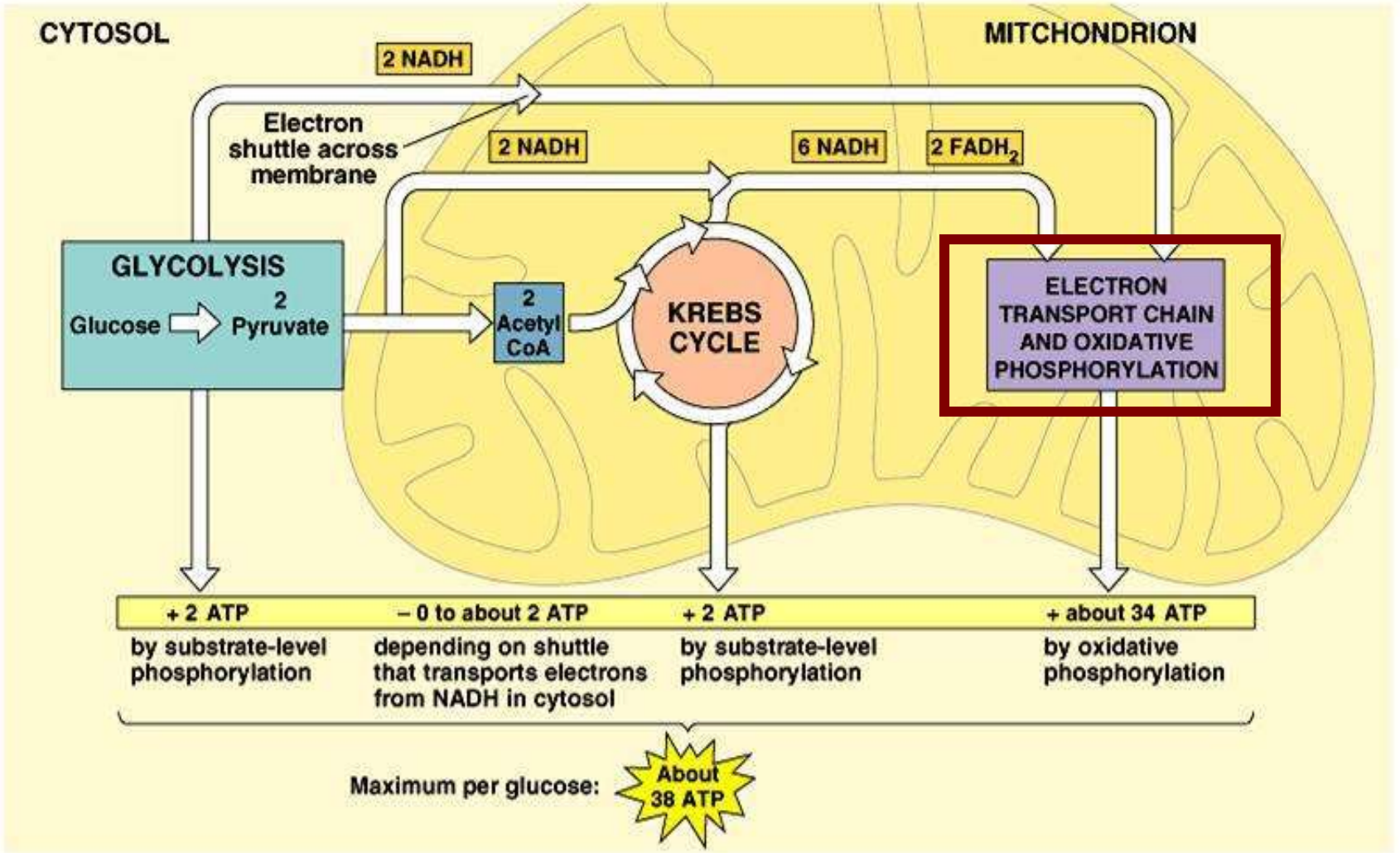
Study Questions

- What's the importance of the TCA cycle?
- Where is this process carried out?
- By the aid of diagrams explain the reactions of the TCA cycle.
- Write down the overall stoichiometric equation for the TCA cycle.
- What are the points of regulation in TCA cycle?
- How is Pyruvate dehydrogenase regulated?
- How are amino acid, carbohydrates and fatty acids metabolism related to the TCA cycle?
- How does the TCA cycle function as biosynthetic precursors?
- What is the committed step in TCA cycle?
- Why is it that Glycolysis can take place under either aerobic or anaerobic conditions but the citric acid cycle proceeds strictly under aerobic conditions?

Overview

- Glycolysis produces pyruvate by oxidation of glucose
- The pyruvate is than oxidized to A.CoA in the mitochondria
- The acetly units are oxidized to CO2 by TCA cycle in the mitochondrial matrix
- Energy released during both the oxidation rxns are collected by NAD+ and FAD
- So NADH and FADH2 carry energy in the form of electrons

Where do all the NADH's and FADH2's Go



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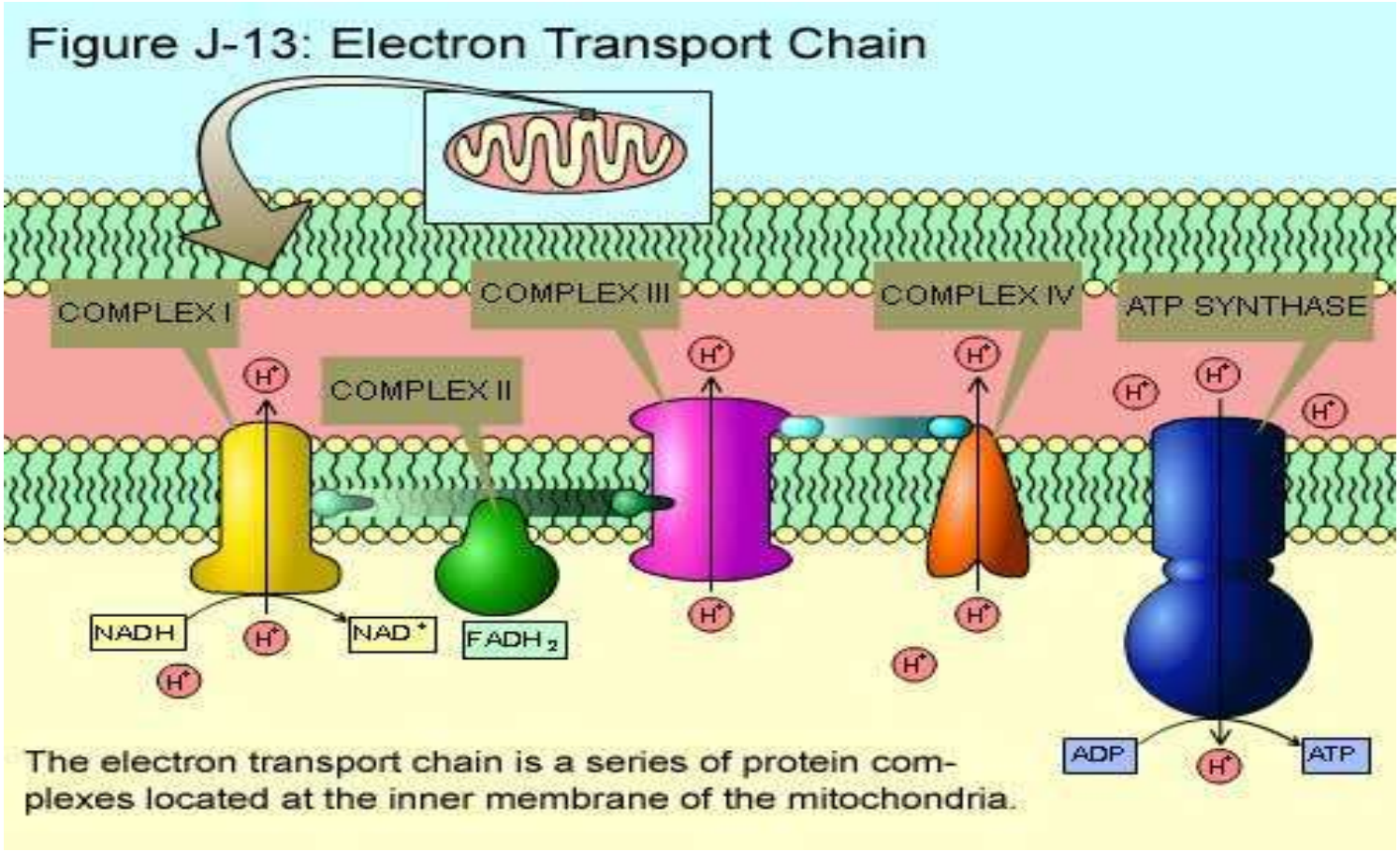
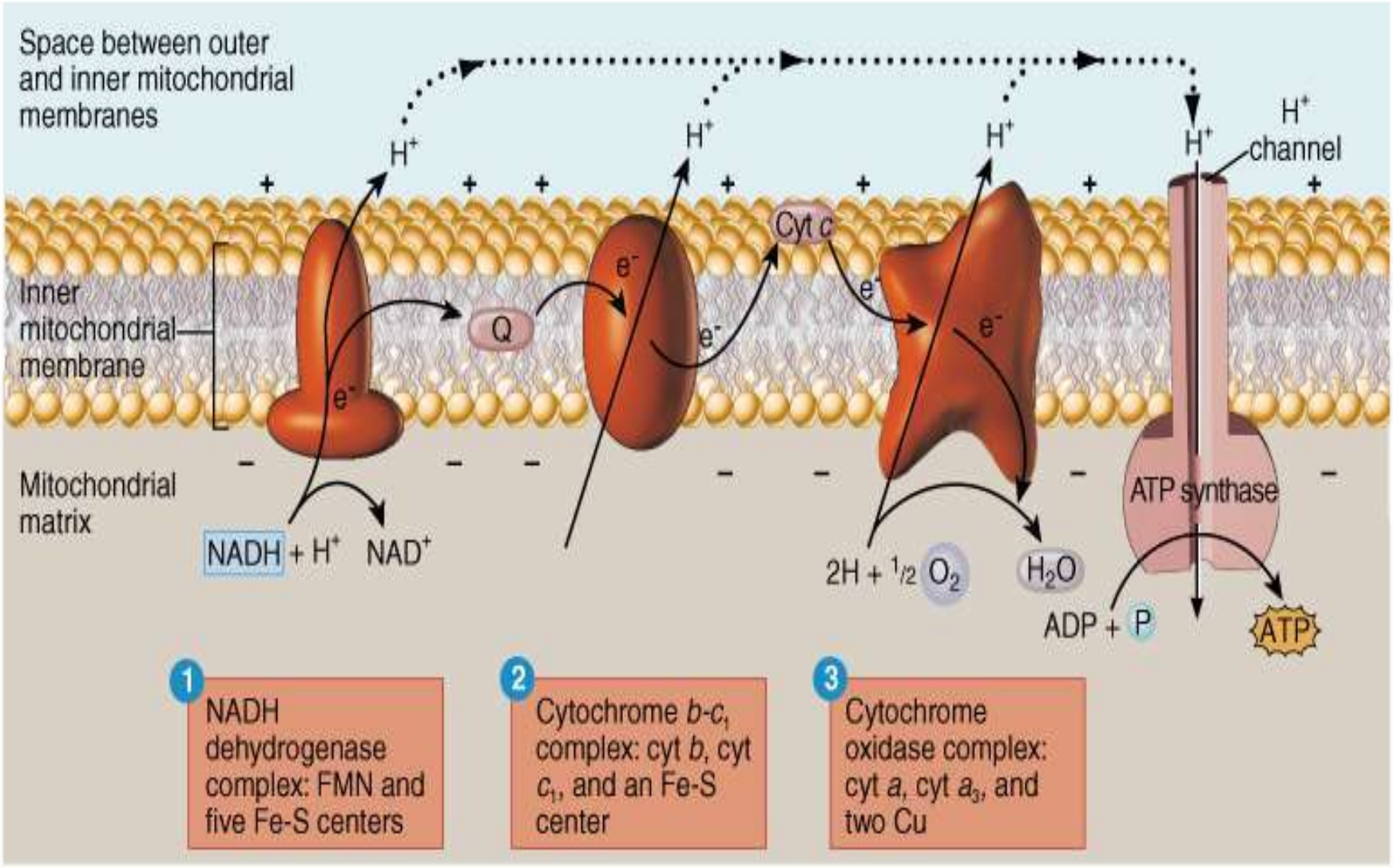
Electron Transport Chain

- Series of electron carriers embedded in the inner membrane of the mitochondria.





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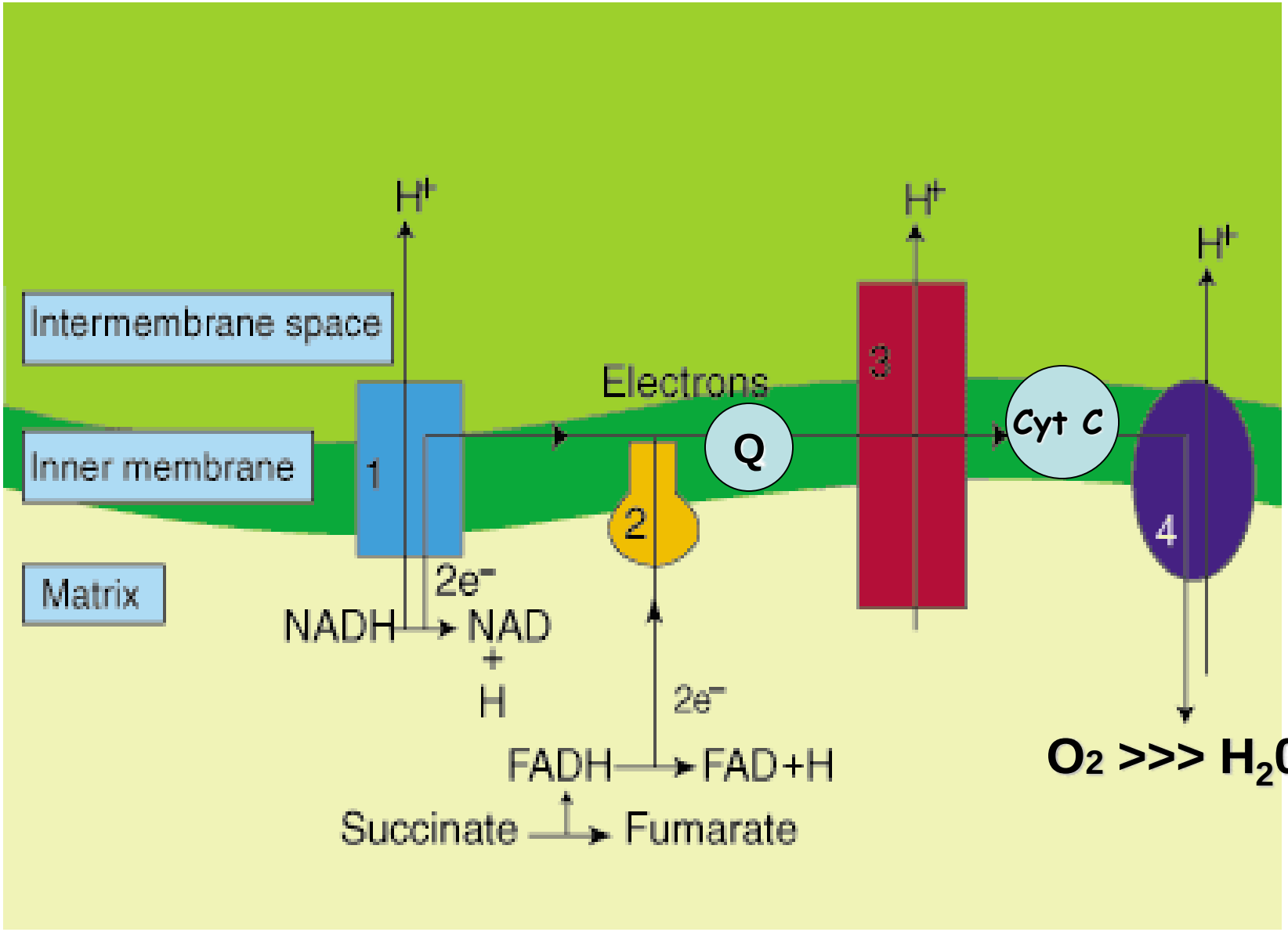
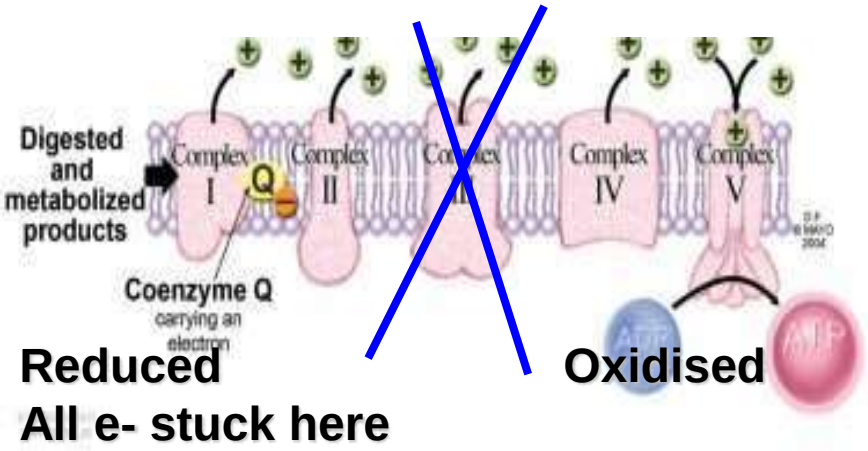

Intermembrane space
Inner membrane
Matrix
H+
H+
H+
1
2
3
4
Electrons
Q
Cyt C
2e⁻
NADH
NAD
+
H
2e⁻
FADH
FAD+H
Succinate
Fumarate
O2 >>> H20

Inhibitors of ETC

- Inhibitors bind to the components of the electron transport chain and block electron transfer. All components before the block are stuck in a reduced state and all components after in an oxidized state.



Example

1. **Cyanide, carbon monoxide** — **Blocks complex IV**
2. **rotenone, amytal** — **Blocks complex I**
3. **antimycin** — **Blocks complex III**

Inhibitors of ATP synthesis

They specially dissipates (destroys) the proton gradient

1. Uncouplers

- collapse the proton gradient by equalizing the proton concentration on both sides of membrane
- They diffuse across the membrane and pick up protons from one side and release then on the other side

2. Ionophores

- Hydrophobic molecules that disspate osmotic gradients by inserting them selves into the membrane and form a channel

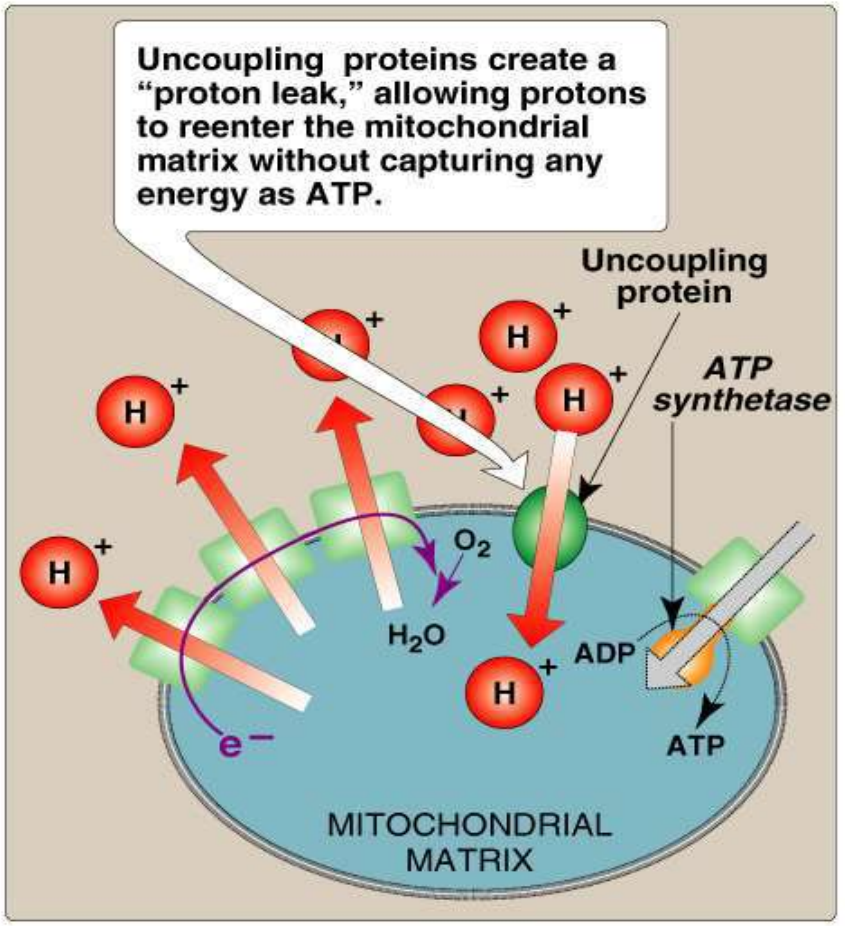


Figure 6.14

Transport of H^+ across mitochondrial membrane by 2,4-dinitrophenol.

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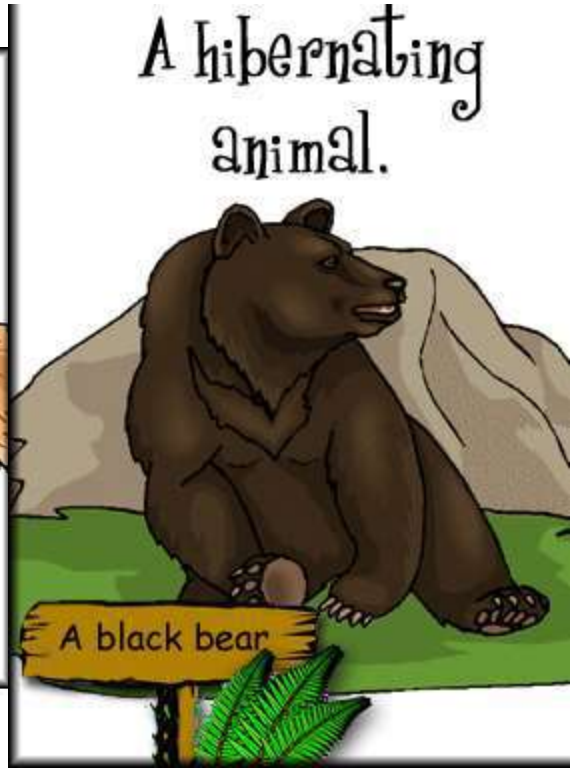
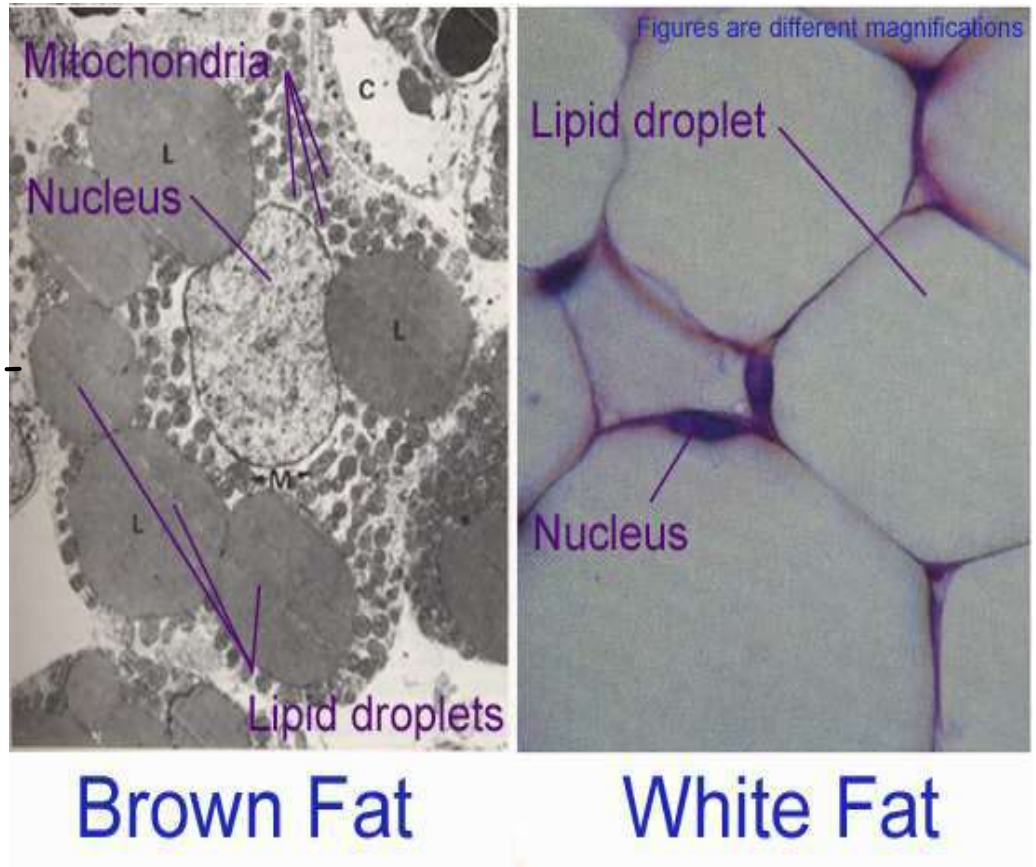
Ever wondered how these keep warm?



Brown Fat

A dark-colored, mitochondrion-rich adipose tissue in many mammals that generates heat (not energy) to regulate body temperature, especially in hibernating animals.



- White adipocytes (fat cells) contain a single, large fat vacuole

- brown adipocytes contain several smaller vacuoles and a much higher number of mitochondria.

- Brown fat also contains more capillaries since it has a greater need for oxygen than most tissues

Study Questions

1. How do the enzyme complexes that make up the respiratory chain work?
2. How are the TCA cycle and glycolysis linked to ETC?
3. Differentiate between the effects of: -
   - -Electron transport chain inhibitors
   - -Uncouplers
1. Describe thermogenesis.
2. Apart from ATP synthesis what else is the proton gradient utilized for?
3. What is brown fat
4. How do babies and hibernating animals keep warm?

Experimental Learning
Microscope

GoodLuck | Page No.
Date 23 | 11 | 22

Zoology Practical (Presenty)

Name of student	sign
onkar More	onkar
Dhiraj Gavali	~~Gavali~~
om more	~~omore~~
satyajeet Gund	~~Gund~~
yash Mane	yash
Dhiraj Awore	Awore D.A.
Harshad Lake	H.B. Lake
Mahadev gate	M.A. gate
Ajay Chavan	~~AJChavan~~
Aakash Dixit	~~A.T. Dixit~~
omkar Gate	~~Gate~~
Sanket wayker	
Nitin Dalavi	N.S. Dalavi
Hande Mahadev	~~mahadev~~
Saurabh Yadav	Yadav N.S.B.
shaikh salchib	~~Shaik~~
Kumbhar Rohan	~~Rom~~
Kadam Ram	~~Ram~~
shelake swaranjali	~~Shelk~~
Salunke Rajeshwari	R.S. Salunke
Lohar Gauri	Glohar
Kiran shinde	~~Kiran~~
Sneha Gore	S R. Gore

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Hemuji Chandele College, Shelgaon (R),

Tal. Barshi, Dist. Solapur (Maharashtra) 413222

Class – B.Sc. I

Semester –First

Subject-Mathematics

Paper – Algebra

Paper - I

Day's	Task to be completed	Dated on	Attendance	Methodology
Day 1	Introduction and Definition of matrix	23/8/22	16	Lecture
Day2	Types of matrix and its examples	24/8/22	15	Lecture
Day3	Symmetric and skew symmetric matrix	25/08/22	12	Lecture
Day4	Assignment – Rank of matrix	26/8/22	10	Lecture
Day5	Minor and cofactors and elementary transformation of a matrix	28/8/22	15	Lecture
Day6	Rank of a matrix(echelon and normal form)	29/8/22	16	Lecture
Day7	MCQ-Matrix	31/8/22	15	Test
Day 8	Characteristic equation of a matri and its examples	1/8/22	14	Lecture
Day9	Assignment- Inverse of a matrix by caylay –hamilton method	1/8/22	12	Lecture
Day10	Caylay Hamilton theorem and its use in finding the inverse of matrix	2/8/22	12	Lecture
Day11	**Test- Algebra**	4/8/22	13	Test
Day12	Introduction of linear equation	5/8/22	15	Lecture
Day13	System of linear equation	7/8/22	16	Lecture
Day14	**System of homogeneous linear equation**	7/9/22	16	Lecture
Day15	Solution of system of linear homogeneous equation	8/9/22	16	Lecture
Day16	Assingment- solution of system of linear homogeneous equation	9/9/22	14	Lecture
Day17	System of homogeneous linear equation and its examples	14/9/22	12	Lecture
Day18	System of non- homogeneous linear equation	15/9/22	12	Lecture
Day19	Examples of non – homogeneous equation	16/9/22	12	Lecture
Day20	Assignment- solution of system of on homogeneous Linear equation	25/9/22	12	Lecture
Day21	Eigen value and eigen vectors and its examples	26/9/22	12	Lecture

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Day22	Assignment eigenvalue and eigenvectors	27/9/22	12	Lecture
Day23	Introduction of complex number	6/10/22	10	Lecture
Day24	Definition of complexumberand itsexamples	7/10/22	11	Lecture
Day25	**Modulus and argument of complex number**	9/10/22	12	Lecture
Day26	MCQ-COMPLEX -1	13/10/22	11	Test
Day27	**Demoviers theorem**	14/10/22	11	Lecture
Day28	Demoivres theorem and its application	16/10/22	11	Lecture
Day29	Assignment-application of demovires theorem	20/10/22	10	Lecture
Day30	Roots ofunity of a complex number	21/10/22	10	Lecture
Day31	MCQ-Complexnumber	22/10/22	10	Test
Day32	**Roots of unity of complex number and its examples**	24/10/22	12	Lecture
Day33	**Test- complex number**	27/10/22	12	Test
Day34	**Expansion of cosnθ, sinnθ**	26/10/22	12	Lecture
Day35	**Introduction to transcendental theorem**	27/10/22	12	Lecture
Day36	**Periods ofcircular function**	28/10/22	12	Lecture
Day37	**Hyperbolic function**	29/10/22	12	Lecture
Day38	**MCQ-transcendental function**	31/10/22	12	Test
Day39	**Relation between circular and hyperbolicfunctions**	1/11/22	12	Lecture
Day40	**Period of hyperbolic function**	2/11/22	10	Lecture
Day41	**Assignment-Transcendental function**	3/11/22	11	Lecture
Day42	**Inverse circular function**	4/11/22	11	Lecture
Day43	**Inverse hyperbolic function**	5/11/22	11	Lecture
Day44	**Assignmrent of inverse hyperbolic function**	7/11/22	12	Practical

Name of HOD - Nagtilak Rupali

PRINCIPAL
Hemuji Chandele College Shelgaon (R)
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Signatuare of HOD-

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Mathematics

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Class – B.Sc. I

Semester –First

Subject-Mathematics

Paper – CALCULUS

Paper - II

Day's	Task to be completed	Dated on	Attendance	Methodology
Day 1	Inroduction of differentiation	23/8/22	16	Lecture
Day2	Indeterminate form	24/8/22	15	Lecture
Day3	L hospital rule	25/8/22	12	Lecture
Day4	MCQ-Differentiation	26/8/22	10	Test
Day5	L Hospitals rule and its differentiation	28/8/22	15	Lecture
Day6	The indeterminate form 0,1.∞	29/8/22	16	Lecture
Day7	Assignment- L hospitals rule	31/8/22	15	Lecture
Day 8	Successive differentiation	10/8/22	14	Lecture
Day9	Leibnitz theorem	11/8/22	12	Lecture
Day10	Test- Differentiation	12/8/22	12	Lecture
Day11	**Taylors theorem and machaurins theorem**	14/8/22	13	Lecture
Day12	Assignment – successive differentiation	16/8/22	15	Lecture
Day13	Introduction of two variable form	17/8/22	16	Lecture
Day14	**Limit and continuity of two variable function**	18/8/22	16	Lecture
Day15	Partial derivatives	19/8/22	16	Lecture
Day16	MCQ-Continuity of a function	20/8/22	14	Test
Day17	Partial Derivatives	22/8/22	12	Lecture
Day18	Assingment – Partial derivative of higher order	23/8/22	12	Lecture
Day19	Homogeneous function	24/8/22	12	Lecture
Day20	Euler's Theorem	25/8/22	12	Lecture
Day21	Assignment – Euler's theorem	26/8/22	12	Lecture
Day22	Test- Function of two variables	27/8/22	12	Lecture
Day23	Introduction of Reduction formulas	29/8/22	10	Lecture
Day24	Reduction formula for $\int sinx$ dx	30/8/22	11	Lecture
Day25	**Reduction formula for $\int cosx\,dx$**	31/8/22	12	Lecture
Day26	Examples of sinx cosx	1/9/22	11	Lecture

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Day27	examples	2/9/22	11	Lecture
Day28	Assingment- Reduction formula for $\int sinx\,dx$	3/9/22	11	Lecture
Day29	Examples of $\int cosxdx$	5/9/22	10	Lecture
Day30	Reduction formuls for $\int sinxcosxdx$	6/9/22	10	Lecture
Day31	Assingment	7/9/22	10	seminar
Day32	Test- Reduction formula	8/9/22	12	seminar
Day33	Assignment-Reduction formula for $\int sinxcosxdx$	10/9/22	12	Lecture
Day34	Introduction of vector calculus	12/9/22	12	PPT
Day35	Scalar point function	13/9/22	12	Lecture
Day36	Vector point function	14/9/22	12	Lecture
Day37	MCQ- Scalar and vector point function	15/9/22	12	Lecture
Day38	Geometrical meaning of Φ	16/9/22	12	Lecture
Day39	Directional derivative	17/9/22	12	Lecture
Day40	Assingment- Geometrical meaningΦ	19/9/22	12	Lecture
Day41	Property of Gradient	20/9/22	12	Lecture
Day42	Test-vector calculus	21/9/22	12	Lecture
Day43	Divergence and curl	22/9/22	10	Lecture
Day44	Assingment-Divergence and curl	23/9/22	11	Lecture

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Solapur
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Hemuji Chandele College Shelgaon (R)
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Class – B.Sc. I

Semester –second

Subject-Mathematics

Paper – Geometry

Day's	Task to be completed	Dated on	Attendance	Methodology
Day 1	Change of Axis and Polar co-orinates	10/11/23	12	Lecture
Day2	Translation	11/11/23	12	Lecture
Day3	Rotations	12/11/23	12	Lecture
Day4	Translation and Rotations	14/11/23	10	Lecture
Day5	Identification of conics from general form of second degree equation	15/11/23	11	Lecture
Day6	Test-1	16/11/23	11	Test
Day7	Polar coordinates	17/11/23	12	Lecture
Day 8	Conversion formulae	18/11/23	12	Lecture
Day9	Equation of a conics in polar co-ordinate system	19/11/23	12	Lecture
Day10	Test- Change of Axis and polar coordinates	21/11/23	10	Test
Day11	**MCQ**	22/11/23	11	Test
Day12	Plane	23/11/23	11	Lecture
Day13	General equation of Plane.	24/11/23	12	Lecture
Day14	**Normal equation**	25/11/23	12	Lecture
Day15	Intercept form	26/11/23	10	Lecture
Day16	Angle between two planes	28/11/23	11	Lecture
Day17	Assignment-Translation and rotation	29/11/23	12	Lecture
Day18	Plane through three point	30/11/23	12	Lecture
Day19	Plane through a given point	1/12/23	12	Lecture
Day20	Two side of a plane	2/12/23	12	Lecture
Day21	Assignment	3/12/23	12	Lecture
Day22	Distance of a point from a plane	5/12/23	10	Lecture
Day23	Family of planes	6/12/23	11	Lecture
Day24	Test – Plane	7/12/23	11	Test
Day25	**Sphere**	8/12/23	11	Lecture
Day26	Centre radius form	9/12/23	10	Lecture
Day27	**General equation of a sphere**	10/12/23	9	Lecture
Day28	Diameter form	12/12/23	10	Lecture
Day29	Equation of a plane and condition for tangency	13/12/23	11	Lecture
Day30	Family of Sphere $s+\lambda P=0$ and $s+\lambda s'=0$	14/12/23	12	Lecture
Day31	MCQ Test	15/12/23	12	Test

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Day32	Assignment	16/12/22	12	Lecture
Day33	**Test**	17/12/22	12	Test

Name of HOD - Nagtilak Rupali

Rupali.

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Mathematics

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Tal. Barshi, Dist. Solapur (Maharashtra) 413222

Class – B.Sc. I

Semester –second

Subject-Mathematics

Paper- Differential Equation

Day's	Task to be completed	Dated on	Attendance	Methodology
Day 1	Differential equation of first order and first degree: (part -1)—Variables Homogeneous	19/12/23	10	Lecture
Day2	Non –homogeneous differential Equation	20/12/23	11	Lecture
Day3	MCQ	21/12/23	12	Test
Day4	Test-1	22/12/23	12	Test
Day5	Differential Equation of first order and first degree:[partII]	23/12/23	10	Lecture
Day6	Exact differential equation	24/12/23	10	Lecture
Day7	Necessary and Sufficient condition for exactness	26/12/23	10	Lecture
Day 8	Integrating Factor with four rules	27/12/23	9	Lecture
Day9	Linear differential equation of the form:dy/dx+Py=Q	28/12/23	8	Lecture
Day10	**Bernoulli Equation dy/dx+Py=Qy^n**	29/12/23	10	Lecture
Day11	**MCQ**	30/12/23	11	Test
Day12	Assignment- Linear equation of first order and first degree [part-I]	31/12/23	12	Lecture
Day13	Linear Differential Equation with Constant Coefficient: [partI]	2/1/24	12	Lecture
Day14	**Complementry function and particular integral**	3/1/24	11	Lecture
Day15	General solution of f(D)y=X	4/1/24	11	Lecture
Day16	Assignment- Linear differential equation of first order and first degree[part-II]	5/1/24	10	Lecture
Day17	Solution of f(D)y=0 for non -repeated	6/1/24	10	Lecture
Day18	Repeated real roots and complex roots	7/1/24	12	Lecture
Day19	Assignment-Solution of f(D)y=X, where X=e^{ax} and x^m	9/1/24	12	Lecture
Day20	MCQ	10/1/24	12	Test
Day21	Linear Differential Equation with Constant Coefficient[Part-II]	11/1/24	12	Lecture
Day22	Solution of f(D)y=X , where X is of the form e^{ax}	12/1/24	12	Lecture
Day23	Sin(ax), cos(ax),	13/1/24	12	Lecture
Day24	X^m , $e^{ax}v$	14/1/24	12	Lecture
Day25	**Assignment**	16/1/24	12	Lecture
Day26	test	17/1/24	11	Test

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Day27	**Examples**	18/1/23	11	Lecture
Day28	Examples	19/1/23	11	Lecture
Day29	Examples	20/1/23	10	Lecture
Day30	Examples	21/1/23	11	Lecture
Day31	Examples	23/1/23	12	Lecture
Day32	Examples	24/1/23	12	Lecture
Day33	**Test**	25/1/23	12	Test

Name of HOD - Nagtilak Rupali

Signature of HOD - Rupali.
Head of the Department
Mathematics

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Hemuji Chandele College, Shelgaon (R),

Tal. Barshi, Dist. Solapur (Maharashtra) 413222

Class – B.Sc. II

Semester –Third

Subject- Differential calculus

Paper – v

Day's	Task to be completed	Dated on	Attendance	Methodology
Day 1	Introduction of Tangent and Normal	1/8/22	3	Lecture
Day2	Equation of tangent and normal	2/8/22	2	Lecture
Day3	Angle of intersection of two curves	3/8/22	3	Lecture
Day4	Assignment- Angle of intersection	4/8/22	2	Lecture
Day5	Length of tangent of normal and its examples	5/8/22	3	Lecture
Day6	Sub-tangent and sub-normal at any point of curve	6/8/22	2	Lecture
Day7	MCQ-Tangent and normal	8/8/22	2	Test
Day 8	Pedal equation or p,r and cartasian form	9/8/22	2	Lecture
Day9	Test- Tangent and Normal	10/8/22	3	Test
Day10	Assignment-Length of tangent and normal	11/8/22	3	Lecture
Day11	**Angle between radius vector and tangent**	12/8/22	3	Lecture
Day12	Length of perpendicular form pole to the tangent	13/8/22	3	Lecture
Day13	Length of polar subtangent	16/8/22	3	Lecture
Day14	**Length of polar subnormal**	17/8/22	2	Lecture
Day15	Pedal equation	18/8/22	3	Lecture
Day16	MCQ-Tangent and normal	19/8/22	3	Test
Day17	Derivatives of length of an arc(cartasian form)	20/8/22	3	Lecture
Day18	Differential coefficient of arclength	22/8/22	2	Lecture
Day19	Test- tangent and normal	23/8/22	3	Test
Day20	Introduction of curvatureand its definition	24/8/22	3	Lecture
Day21	Curvature of circle	25/8/22	2	Lecture
Day22	Radius of curvature	26/8/22	3	Lecture
Day23	Radius of curvature for intensic equation	27/8/22	3	Lecture
Day24	Assignment- Radius of curvaturefor intensic equation	29/8/22	3	Lecture
Day25	**Radius of curvature for intensic equation and its examples**	30/8/22	3	Lecture
Day26	Assignment- Radius of curvature for intensic	1/9/22	3	Lecture

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y27	**Length of arc as a function and its examples**	2/9/22	3	Lecture
y28	Length of arc as a function and its examples	3/9/22	3	Lecture
ıy29	Radius of curvature	5/9/22	3	Lecture
ay30	Assignment – Radius of curvature	6/9/22	3	Lecture
ay31	Cartasian equation of radius of curvature	7/9/22	3	Lecture
ay32	**Radius of curvature for parametric equation**	8/9/22	3	Lecture
ay33	**Radius of curvature for parametric equatiuon and its examples**	9/9/22	3	Lecture
ay34	**Radius of curvature for polar equation**	10/9/22	2	Lecture
ay35	**Assignment- Radius of curvature for parametric equation**	12/9/22	3	Lecture
ay36	**Radius of curvature for polar equation r=f(Θ) and its examples**	13/9/22	3	Lecture
ay37	**Assignment- Radius of curvature for polar equation=f(Θ)**	14/9/22	3	Lecture
y38	**Test- curvature**	15/9/22	3	Test
ıy39	**Introduction of jacobians**	16/9/22	3	Lecture
ıy40	**Definition of jacobian**	17/9/22	2	Lecture
ıy41	**Jacobian of a function and its examples**	18/9/22	2	Lecture
y42	**MCQ-jacobian**	20/9/22	2	Test
y43	**Test-Jacobian function**	21/9/22	3	Test
y44	**Jacobian of function of function and its examples**	22/9/22	3	Lecture
y45	**Assignment of jacobian**	23/9/22	3	Lecture
y46	**Jacobian of Implicit function**	24/9/22	3	Lecture
y47	**Assignment of implicit function**	26/9/22	3	Lecture
y48	**Condition for dependent variable**	27/9/22	3	Lecture
y49	**Introduction of maximum function and minimum function**	28/9/22	3	Lecture
ı50	**Function of single variable**	29/9/22	1	Lecture
ı51	**Function of two variable**	30/9/22	2	Lecture
52	**Condtion for stationary value of a function of two variable**	1/10/22	3	Lecture
53	**The extreme value of function and its examples**	3/10/22	3	Lecture
54	**Necessary condition for extreme value**	4/10/22	3	Lecture
55	**Use of second order derivatives**	5/10/22	3	Lecture
56	**Lagranges method of undeterminate multiples**	6/10/22	3	Lecture
57	**Assignment – Lagranges method of undeterminate multiples**	7/10/22	3	Lecture

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Day58	**Examples**	8/10/22	3	Lecture
Day59	**Test- Maxima and minima**	9/10/22	3	Test

Name of HOD - Naqtilak Rupali

Rupali

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Mathematics

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Hemuji Chandele College, Shelgaon (R),

Tal. Barshi, Dist. Solapur (Maharashtra) 413222

Class – B.Sc. II

Semester –Third

Subject- Laplace Transform

Paper – vI

Day's	Task to be completed	Dated on	Attendance	Methodology
Day 1	Introduction and definition of Laplace Transform	10/10/22	3	Lecture
Day2	Definition of integral transform and piecewise or sectional continuity	11/10/22	3	Lecture
Day3	Function of exponential order and function of class 's'	12/10/22	3	Lecture
Day4	Assignment- Function of exponential order	13/10/22	2	Lecture
Day5	Sufficient condition for existence of laplace transform	14/10/22	2	Lecture
Day6	Linearity Property	15/10/22	3	Lecture
Day7	MCQ- Laplace transform	17/10/22	3	Test
Day 8	Laplace transform of elementary function	18/10/22	3	Lecture
Day9	First Translation or shifting theorem	19/10/22	3	Lecture
Day10	Test- laplace transform	20/10/22	3	Test
Day11	**Second Translation or shifting theorem**	21/10/22	2	Lecture
Day12	Change or scale property	22/10/22	3	Lecture
Day13	Length of polar subtangent	24/10/22	3	Lecture
Day14	**Laplace transform of nth order derivative**	25/10/22	2	Lecture
Day15	Initial and final value theorem	26/10/22	2	Lecture
Day16	Assignment- Initial and final value theorem	27/10/22	2	Lecture
Day17	Multiplication by t and division by t	28/10/22	1	Lecture
Day18	The convolution theorem and periodic table	29/10/22	3	Lecture
Day19	Test- laplace transform	31/10/22	3	Test
Day20	Inverse laplace Transform	1/11/22	3	Lecture
Day21	Null function, Uniqueness of inverse laplace transform	2/11/22	3	Lecture
Day22	Assignment inverse Laplace transform	3/11/22	3	Lecture
Day23	Linearity Property and its examples	4/11/22	3	Lecture
Day24	First translation or shifting theorem	5/11/22	2	Lecture
Day25	**Second translation and shifting theorem**	7/11/22	2	Lecture
Day26	MCQ- Inverse laplace transform	8/11/22	2	Test
Day27	**Change of scale property**	9/11/22	3	Lecture
Day28	Method of partial function	10/11/22	3	Lecture

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Day29	Inverse laplace transform of derivatives	11/11/22	3	Lecture
Day30	Assignment – Method of partial function	12/11/22	3	Lecture
Day31	Inverse laplace Transform of integrals	14/11/22	3	Lecture
Day32	**Multilication by powers of s**	15/11/22	3	Lecture
Day33	**Division by power of s**	16/11/22	2	Lecture
Day34	**Definition of convolution theorem**	17/11/22	2	Lecture
Day35	**Assignment-Inverse laplace transform of Integrals**	18/11/22	2	Lecture
Day36	**Convolution theorem**	19/11/22	2	Lecture
Day37	**MCQ**	21/11/22	2	Test
Day38	**Test- the convolution theorem**	22/11/22	3	Test
Day39	**Heavisides expansion theorem theorem or formula and the beta function**	23/11/22	3	Lecture
Day40	**Application laplace transform**	24/11/22	3	Lecture
Day41	**Solution of ordinary differential equation with constant coefficient**	25/11/22	1	Lecture
Day42	**Ordinary differential equation with constant coefficient**	26/11/22	3	Lecture
Day43	**Assignment- ordinary differential equation with constant coefficient**	28/11/22	3	Lecture
Day44	**Ordinary differential equation with constant coefficient and its examples**	29/11/22	3	Lecture.
Day45	**Test- Application of Laplace Transform**	30/11/22	3	Test

Name of HOD - Nagtilak Rupali

Signature of HOD -

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Mathematics

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Class – B.Sc. II

Sem-Fourth

Subject-Mathematics

Paper-VII [Differential Equations]

Day's	Task to be completed	Dated on	Attendance	Methodology
Day 1	Differential Equation of the first order and of degree higher than the first:	2/1/23	3	Lecture
Day2	Equation that can be resolved by into factors of the first degree	3/1/23	3	Lecture
Day3	Equation solvable for x	4/1/23	3	seminar
Day4	Equation solvable for y	5/1/23	3	Lecture
Day5	Assignment	6/1/23	3	Lecture
Day6	Clairaut's Equation	7/1/23	3	Lecture
Day7	Equations reducable to clairaut's form	9/1/23	3	Lecture
Day 8	Test	10/1/23	3	Test
Day9	Linear Equations of the second order	11/1/23	2	Lecture
Day10	**General Form of the second order linear equation**	12/1/23	3	Lecture
Day11	**Complete solution when one integral belonging to complementary function is known**	13/1/23	3	Lecture
Day12	Rules of getting an intergral belonging to complementary function	14/1/23	3	Lecture
Day13	Removal of the order Derivative	16/1/23	3	Lecture
Day14	**Transformation of the linear equation of second order by Changing the independent variable**	17/1/23	2	Lecture
Day15	Assignment	18/1/23	3	Lecture
Day16	Homogeneous linear equation	19/1/23	3	Lecture
Day17	Working rule for fining the solution	20/1/23	3	Lecture
Day18	Equations reducible to Homogeneous form	21/1/23	3	Lecture
Day19	Assignment-Linear equation of the second order and Homogeneous linear equation (partII)	23/1/23	3	Lecture
Day20	MCQ	24/1/23	3	Test
Day21	Simultaneous Equation	25/1/23	2	Lecture
Day22	Nature of the solution of simultaneous equation	27/1/23	2	Lecture
Day23	Rules of solving the equation	28/1/23	3	Lecture
Day24	Test	30/1/23	2	Test
Day25	**Assignment- Simultaneous equation and Total**	31/1/23	2	Lecture

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	Differential Equation			
Day26	Total Differential Equations	1/2/23	1	Lecture
Day27	**Necessary and sufficient condition for the integrability of total differential equation(proof of necessity only)**	2/2/23	3	Lecture
		3/2/23	3	Lecture
Day28	Condition for exactness	4/2/23	3	Lecture
Day29	Criterian for exactness	6/2/23	3	Lecture
Day30	Method of solving the Equation	7/2/23	3	Lecture
Day31	MCQ	8/2/23	3	Test
Day32	Test	9/2/23	3	Test
Day33	**assignment**	10/2/23	3	Lecture

Name of HOD - Nagtilak Rupali

Signature of HOD - Rupali.

Head of the Department
Mathematics

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Class – B.Sc. II

Sem-Fourth

Subject-Mathematics

Paper-VIII [Abstract Algebra]

Day's	Task to be completed	Dated on	Attendance	Methodology
Day 1	Introduction to Groups	11/2/23	3	Lecture
Day2	Definition and Example of Groups	13/2/23	3	seminar
Day3	Permutation	14/2/23	3	Lecture
Day4	Subgroups	15/2/23	3	Lecture
Day5	Groups and symmetry	16/2/23	3	Lecture
Day6	Test	17/2/23	2	Test
Day7	Assignmen-tGroups	18/2/23	1	Lecture
Day 8	Equivalence ,Congruence, Divisibility	20/2/23	3	Lecture
Day9	Equivalence relation and partitions	21/2/23	3	Lecture
Day10	**Congruence and Division Algorithm**	22/2/23	3	Lecture
Day11	**Inteer Modulo n**	23/2/23	3	Lecture
Day12	Gretest Common Divisors	24/2/23	1	Lecture
Day13	The Euclidian Algorithm	25/2/23	3	Lecture
Day14	**Factorization**	26/2/23	3	Lecture
Day15	Assignment	28/2/23	3	Lecture
Day16	Euler's Phi Function	1/2/23	2	Lecture
Day17	Test	2/2/23	2	Test
Day18	Groups	3/2/23	1	Lecture
Day19	Elementary Properties of Groups	4/2/23	1	Lecture
Day20	Generators	6/2/23	3	Lecture
Day21	Direct Product	7/2/23	3	Lecture
Day22	Cosets	8/2/23	3	Lecture
Day23	Lagranges Theorem	9/2/23	3	Lecture
Day24	Test	10/2/23	3	Test
Day25	**Isomorphism**	11/2/23	3	Lecture
Day26	Total Differential Equations	13/2/23	3	Lecture
Day27	**More on Isomorphism**	14/2/23	3	Lecture
Day28	Cayleys Theorem	15/2/23	3	Lecture
Day29	Assignment	16/2/23	3	Lecture
Day30	Groups Homomorphism	17/2/23	3	Lecture
Day31	Kernels	18/2/23	3	Lecture
Day32	Quotient Groups	20/2/23	3	Lecture
Day33	**The Fundamental theorem of Homomorphism**	21/2/23	3	Lecture.

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Signature of HOD - Rupali.
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Mathematics

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	Headerfooters, border and shading, bullets, mail merge, Table,	27/9/22	12	Lecture
Day19	graphics, label, Templates, Wizards and Printing Techniques.	28/9/22	10	
Day20	**Microsoft Excel:** -Introduction to excel, File management in excel, operations relatedto workbook, formatting	29/9/22	12	Experiential Learning
Day21	sheet, adding formulate and functions, charts and maps,data menu, view menu, ,	30/9/22	11	Lecture
Day22	work with multiple worksheets importing and exporting ofdata.	30/9/22	10	Lecture
Day23	**Microsoft PowerPoint:** Introduction and Applications of Power Point, create a NewPresentation, ,	2/10/22	11	Experiential Learning
Day24	Adding Slides Clip Arts, Smart art,	2/10/22	10	Lecture
Day25	Charts, Text, images and otherobjects,	3/10/22	9	Lecture
Day26	Templates and Master Slides, Giving Animation	4/10/22	10	Lecture
Day27	effects, Links and Actionbuttons	5/10/22	11	Lecture
Day28	Revision	6/10/22	9	Lecture

Jyoti Ramesh Surwase
NAME OF HOD

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Department Of Computer Science(2022-23)

Teaching Plan

Class- B.Sc. I

Semester – I

Subject – Computer Science

Paper – I Programming Using C

Day's	Task to be completed	Dated on	Attendance	Methodology
Day1	Programming languages (Machine Languages, Assembly Languages, High levellanguages),	22/9/22	9	participatory Learning
Day2	Compiler, Assembler, Interpreter.	7/10/22	8	Lecture
Day3	Planning the Computer Program: Concept of problem solving, ,	7/10/22	9	PPT
Day4	Problem definition,Program design	8/10/22	7	Lecture
Day5	, Debugging, Types of errors in programming,	8/10/22	10	Lecture
Day6	Documentation.,Concept of Algorithm, Characteristics,	9/10/22	10	Lecture
Day7	Notation of Algorithm, Designing AlgorithmsWriting step by step procedure,	9/10/22	11	Lecture
Day8	Flowcharts- Definition, Symbol, features,representation in terms of Flow chart,	10/10/22	12	Lecture
Day9	Advantages and Limitations of Flow Charts,Pseudo code generation, Tracing, Testing	11/10/22	10	Lecture
Day10	History, Features of C,	12/10/22	11	Lecture
Day11	Structure of 'C' programming, C-Tokens, Data types,Operators, Control Statements-	13/10/22	12	Lecture

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	Conditional control statements, Looping,	15/10/22	10	Lecture
Day12	Unconditionalcontrol statements Array definition and declaration,	17/10/22	9	Lecture
Day13	Types of array, Accessing Array, array manipulation,searching,	18/10/22	10	Lecture
Day14	insertion,deletion of an element from an array,	19/10/22	11	Lecture
Day15	basic matrix operations,dynamic array,	20/10/22	10	Lecture
Day16	String-Declaration and Initialization of String	21/10/22	9	Lecture
Day17	operation on string,inbuilt String handling functions,	22/10/22	2	Lecture
Day18	arithmetic operation on string.	24/10/22	3	Lecture
Day19	table of string	25/10/22	5	Lecture
Day 20	Unit Test	26/10/22	7	Lecture
Day 21	Revision	28/10/22	8	Lecture

Surwase I.R.

NAME OF HOD

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Date Surwase I.R

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Department Of Computer Science(2022-23)

Teaching Plan

Class- B.Sc. I

Semester – II

Subject – Computer Science

Paper – Introduction to Web Designing

Day's	**Unit I:- Overview of HTML & HTML5** Introduction	Dated on	Attendance	Methodology
Day1	Introduction to Networking, Network topology, LAN, MAN, WAN,	3/1/23	5	Lecture
Day2	Introduction to Internet, Requirement for Internet.	3/1/23	4	Lecture
Day3	Introduction to HTML, Overview of basic HTML , Structure of HTML, Creating and opening HTML file,	4/1/23	3	Lecture
Day4	Singular and paired tags, Text formatting tag, Anchor tag, Lists,Image, Image Map, Table, Frames and Frameset,	5/1/23	3	Lecture
Day5	HTML5: Introduction to HTML5, Need of HTML5, DOCTYPE Element, Tags-Section,Article, aside, header,	6/1/23	4	Lecture
Day6	footer, nav, dialog, figure etc. Events in HTML5, Input tag (Type,Auto focus, placeholder, required etc.	7/1/23	4	Lecture
Day7	attributes.) in HTML5, Graphics in HTML5,Media tags in HTML5	9/1/23	4	Lecture
Day8	**Unit II:- Introduction to CSS** Introduction	10/1/23	4	Lecture
Day9	I to CSS, Use of CSS, Types of CSS, Selectors, Properties, Values.	11/1/23	5	Lecture
Day10	CSS Properties: - Background, Text, Fonts, Link, List, Table, Box Model, Border,Margin, Padding, Display,	12/1/23	4	Lecture
Day11	Positioning, Floating, Opacity, Media type, Backgroundsand Borders Image, Values and Replaced Content, Text	13/1/23	4	Lecture
Day12	Effects,2D/3D, Transformations, Animations, Multiple Column Layout	14/1/23	4	Lecture
Day13	, User Interface, CSS interact with JavaScript.	16/1/23	4	Lecture
Day14	**Unit III:- JavaScript** Introduction	20/1/23	4	Lecture
Day15	Introduction to JavaScript, JavaScript Variables & Data types, Operators, Built in functions in JavaScript Control	21/1/23	4	Lecture

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Day16	structure in JavaScript, DOM, Math, Array, History, Navigator, Location, Windows, String, Date, Document	9/2/23	4	Lecture
Day17	objects, user defined function, Validation in JavaScript, event & event handling in JavaScript.	9/2/23	3	PPt
Day18	**Unit I:- Overview of HTML & HTML5** introduction	10/2/23	2	Lecture
Day19	Introduction to Networking, Network topology, LAN, MAN, WAN	13/2/23	3	Lecture
Day20	, Introduction to Internet, Requirement for Internet.	14/2/23	3	Lecture
Day21	Introduction to HTML, Overview of basic HTML , Structure of HTML, Creating and opening HTML file,	15/2/23	4	Lecture
Day22	Singular and paired tags, Text formatting tag, Anchor tag, Lists, Image, Image Map, Table, Frames and Frameset,	16/2/23	5	Lecture
Day23	HTML5: Introduction to HTML5, Need of HTML5, DOCTYPE Element, Tags-Section, Article, aside, header,	17/2/23	5	Lecture
Day24	footer, nav, dialog, figure etc. Events in HTML5, Input tag (Type, Auto focus, placeholder, required etc.	18/2/23	5	Lecture
Day25	attributes.) in HTML5, Graphics in HTML5,Media tags in HTML5	20/2/23	4	Lecture
ay26	**Unit II:- Introduction to CSS**	21/2/23	4	Lecture
Day27	Introduction to CSS, Use of CSS, Types of CSS, Selectors, Properties, Values.	22/2/23	3	Lecture
Day28	CSS Properties: - Background, Text, Fonts, Link, List, Table, Box Model, Border, Margin, Padding, Display,	23/2/23	3	Lecture

NAME OF HOD

Surwase. J.R.

SIGN OF HOD

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Department Of Computer Science(2022-23)

Teaching Plan

Class- B.Sc. I

Semester – II

Subject – Computer Science

Paper – I Programming Using C-II

Day's	Task to be completed	Dated on	Attendance	Methodology
Day1	**Unit I**: -**Function and Pointer** Definition, declaration, function prototypes,	3/1/23	3	Lecture
Day2	Local and global variables, User defined functions, recursion,	3/1/23	4	Lecture
Day3	passing array and string to function, Storage classes Pointers- Definition and declaration, Operation on pointer,	4/1/23	3	Lecture
Day4	Pointer initialization, Pointer and function, Pointer and array, Pointer of pointer, Call by value and Call	5/1/23	3	Lecture
Day5	byreference, Dynamic memory allocation	6/1/23	3	Lecture
Day6	**Unit II**: -**Structures and Union** Definition and declaration, copying and comparing of structure,	7/1/23	4	Lecture
Day7	Array of structures, Passing structure to	9/1/23	5	Lecture
Day8	function, Pointer to structure, Nested structure, self-referential structure, Size of and type def, Definition and	10/1/23	3	Lecture
Day9	declaration of union, difference between structure, union and array.	11/1/23	3	Lecture
Day10	**Unit III**:-**File Handling** Defining, opening and closing of file, operations on file	12/1/23	4	Lecture
Day11	, Standard input and output functions, formatted input	13/1/23	3	Lecture
Day12	and output functions, File opening modes, Error handling, Random access of file, command line argument.	14/1/23	3	Lecture
Day13	Macros and Preprocessing-Features of C preprocessor, Macro – Declaration ,Expansion, File Inclusion	16/1/23	2	Lecture
Day14	Graphics using C - VDU Basics, Simple library functions- getpixel, putpixel, line, rectangle, circle, ellipse, arc etc.	20/1/23	2	Lecture
Day15	**Unit I**: -**Function and Pointer** Definition, declaration	21/1/23	1	Lecture
Day16	, function prototypes, Local and global variables, User defined	23/1/23	2	Lecture

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Day17	functions, recursion,	9/2/23	5	Lecture
Day18	passing array and string to function, Storage classes Pointers- Definition and declaration, Operation on pointer,	9/2/23	4	Lecture
Day19	Pointer initialization ,Pointer and function, Pointer and array, Pointer of pointer, Call by value and Call	10/2/23	4	Lecture
Day20	By reference, Dynamic memory allocation	13/2/23	4	Lecture
Day21	**Unit II**: -**Structures and Union** Definition and declaration, copying and comparing of structure	14/2/23	4	Lecture
	, Array of structures, Passing structure to	15/2/23	5	Lecture

Surwase J.R.
NAME OF HOD

SIGN OF HOD

Golare
Principal
Hemuji Chandele College
Shelgaon(R) Tal-Barshi Dist-Solapur

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Hemuji Chandele College, Shelgaon (R),

Tal. Barshi, Dist. Solapur (Maharashtra) 413222

Department Of Computer Science(2022-23)

Teaching Plan

Class- B.Sc. II

Semester – III

Subject – Computer Science

Paper – V: Data Structures

ay's	Task to be completed	Dated on	Attendance	Methodology
ay1	Introduction of Data Structure, Need of Data Structure	1/8/22	4	Lecture
ay2	,Types of Data Structure, ADT,	2/8/22	2	Lecture
ay3	Stack: Introduction to stack, Representation-static & dynamic, , ,	3/8/22	3	Lecture
ay4	stack Operations, Application -infix to postfix & prefix, postfix evaluation	4/8/22	2	Lecture
ay5	recursion, expression validity. Queues: Introduction to Queue, Representation -static & dynamic	5/8/22	2	Lecture
ay6	Operations, Circular queue, Double ended queue, priority queues, Applications of Queue.	6/8/22	3	Lecture
ay7	Linked List:-Introduction to List, Implementation of List – static & dynamic representation,	8/8/22	3	Lecture
ay8	Types of Linked List, Operations on List	9/8/22	3	Lecture
y9	, Applications of Linked List – polynomial manipulation	10/8/22	3	Lecture
10	Trees: Concept & Terminologies, Binary tree, binary search tree, Representation – static &dynamic	11/8/22	3	Lecture
ay11	Operations on BST – create, Insert, delete, traversals (preorder, inorder, postorder), counting leaf, non-leaf & total nodes	12/8/22	1	Lecture
ay12	, Height balance tree- AVL,B tree,B+ Tree, Graph- Graph terminology,	13/8/22	2	Lecture
ay13	Representation of graphs, Graph	16/8/22	3	Lecture
ay14	Traversal–BFS (breadth first search),DFS (depth first search), Minimum spanning Tree	17/8/22	3	Lecture
ay15	TEST	18/8/22	3	Lecture
ay16	Sorting: Bubble sort,	19/8/22	3	Lecture

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Day17	Quick sort,	20/8/22	3	Lecture
Day18	Simple Insertion sort,	22/8/22	2	Lecture
Day19	Shell sort	23/8/22	3	Lecture
Day20	Address calculation sort	24/8/22	3	Lecture
Day21	Selection Sort,	25/8/22	4	Lecture
Day22	Heap Sort	26/8/22	1	Lecture
Day23	Merge sort	27/8/22	2	Lecture
Day24	Unit test	29/8/22	3	Lecture
Day25	Radix Sort.		4	Lecture
Day26	Searching: Linear Search,	30/8/22	2	Lecture
Day27	Binary Search,	1/9/22	3	Lecture
Day28	and Tree searching methods,	2/9/22	3	Lecture
Day29	Multiway search tree	3/9/22	3	Lecture
Day30	, Hash function (open and close)	6/9/22	3	Lecture
Day31	Revision of All Syllbus	7/9/22	4	Lecture

Syrwase J.R

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SIGN OF HOD

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Hemuji Chandele College Shelgaon (R)

Tal-Barshi, Dist-Solapur

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Tal. Barshi, Dist. Solapur (Maharashtra) 413222

Department Of Computer Science(2022-23)

Teaching Plan

Class- B.Sc. II

Semester – III

Subject – Computer Science

Paper – VI: Software Engineering

Day's	Task to be completed	Dated on	Attendance	Methodology
Day1	System concepts: Introduction system, characteristics,	10/10/22	3	Lecture
Day2	Elements of system, Types of system,	11/10/22	3	Lecture
Day3	System Analysis, Role of System Analyst	12/10/22	4	Lecture
Day4	. Software Engineering: Definition, Characteristics of software,	13/10/22	5	Lecture
Day5	Waterfall model, V-shape model	14/10/22	4	Lecture
Day6	Spiral model, Prototyping,.	15/10/22	3	Lecture
Day7	incremental, RAD, Agile	17/10/22	2	Lecture
Day8	Software requirements: Types of Requirements: .	18/10/22	2	Lecture
Day9	System, Functional, Non-functional, User.	19/10/22	2	Lecture
Day10	Fact finding techniques: Interviews, Questionnaire,	20/10/22	3	Lecture
y11	Record reviews, Observation. Analysis and Design Tools:	21/10/22	2	Lecture
12	Flow chart, Decision tables and Trees, Structured English	22/10/22	2	Lecture
ay13	, HIPO. System Design: Data flow Diagram (Physical, Logical),	24/10/22	3	Lecture
ay14	Entity relation diagram ERD, Data Dictionary,	25/10/22	3	Lecture
ay15	Unit Test	26/10/22	2	Lecture
ay16	structured chart, Input and output design, Case studies: Pay Roll, Fixed Deposit, Inventory system,	27/10/22	2	Lecture
ay17	College Admission System, Library System, Loan system	28/10/22	3	Lecture
ay18	Coding: Coding standards, Size Estimation,	29/10/22	3	Lecture
ay19	Effort Estimation, and Cost Estimation, Software Testing: Need of Testing	31/10/22	3	Lecture

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Day20	, types of testing, Software Implementation and Maintenance: Traditional and incremental approaches,	1/11/22	3	Lecture
Day21	conversion methods, Overview of maintenance process	2/11/22	4	Lecture
Day22	types of maintenance. Software Quality Assurance:	3/11/22	1	Lecture
Day23	SQA Tasks, Goals and Metrics,	4/11/22	2	Lecture
Day24	Software Reliability.	5/11/22	3	Lecture
Day25	Unit Test	7/11/22	4	Lecture
Day26	Software risk management: definition,	8/11/22	3	Lecture
Day27	types of risk	9/11/22	3	Lecture
Day28	risk identification-	10/11/22	3	Lecture
Day29	risk monitoring and management	11/11/22	2	Lecture
Day30	Revision Of All Syllabus	14/11/22	2	Lecture

NAME OF HOD

Surwase I.R

SIGN OF HOD

PRINCIPAL
Hemuji Chandele College Shelgaon (R)
Tal-Barshi, Dist-Solapur

SINGATURE OF PRINCIPAL

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Tal. Barshi, Dist. Solapur (Maharashtra) 413222

Department Of Computer Science(2022-23)

Teaching Plan

Class- B.Sc. II

Semester – IV

Subject – Computer Science

Paper – VII (Core Java)

Day's	Task to be completed	Dated on	Attendance	Methodology
Day1	Overview of Java, Features of Java as programming language	3/1/23	4	Leture
Day2	Platform, JDK Environment and Tools	3/1/23	5	Leture
Day3	Data types, Variables, Operators, Keywords, Naming	4/1/23	3	Lecture
Day4	Conventions, Structure of Java Program	5/1/23	3	Lecture
Day5	Flow Control- Decision, Iterations, Arrays,	6/1/23	2	Lecture
Day6	Class – Members access control, Objects, Constructors, Use of 'this' keyword, Static, non-static	7/1/23	2	Lecture
Day7	data members and methods., public, private & protected data members	9/1/23	3	Lecture
Day8	Access/Scope specifiers protected, Super, extends, single,	10/1/23	4	Lecture
Day9	multiple inheritance, Method overriding, Abstract classes & ADT, 'final' keyword, Extending	11/1/23	5	Lecture
y10	interfaces	12/1/23	4	Lecture
y11	Exceptions and Types, try..catch, finally block, throw & throws	13/1/23	4	Lecture
12	statement, user-defined exceptions,	14/1/23	4	Lecture
ay13	Java I/O package, byte & character stream, reader & writer, file reader & writer	16/1/23	5	Lecture
ay14	Java thread lifecycle, Thread class & run able interface	17/1/23	2	Lecture
ay15	Thread priorities &synchronization, Usage of	18/1/23	2	Lecture
ay16	wait & notify	19/1/23	3	Lecture
ay17	Collection overview, Collection interfaces, Collection classes	20/1/23	4	Lecture
ay18	Vector,Array list, Hash map, Hash table, Tree map, Tree set,	21/1/23	5	Lecture
ay19	Hash set, Properties, Stack	23/1/23	5	Lecture
ay20	Introduction to swing,	24/1/23	4	Lecture
ay21	difference between AWT and swing, hierarchy of Swing classes,	25/1/23	4	Lecture
ay22	Swing controls: - JButton, JTextfield, JLabel, JCheckBox, JRadionButton, JFame, Jtable, JList,	27/1/23	4	Lecture

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y23	JoptionPane, JMenuitem and JMenu ,etc	1/2/23	4	Lecture
y24	Overview of Java,	2/2/23	3	Lecture
y25	Features of Java as programming language /Platform, JDK Environment and	3/2/23	2	Test
y26	Tools	3/2/23	1	Lecture
y27	Data types, Variables, Operators, Keywords, Naming	6/2/23	2	Test
y28	Conventions, Structure of Java Program, Flow Control- Decision, Iterations, Arrays,	7/2/23	3	Lecture
y29	**Unit Test**	8/2/23	3	Lecture
y30	Class – Members access control, Objects, Constructors, Use of 'this' keyword, Static, non-static	9/2/23	4	Test
y31	data members and methods., public, private & protected data members	9/2/23	3	Lecture
y32	Access/Scope specifiers protected, Super, extends, single,	10/2/23	3	Lecture

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Teaching Plan

Class- B.Sc. II

Semester – IV

Subject – Computer Science

Paper – VIII: DBMS Using Oracle

Day's	Task to be completed	Dated on	Attendance	Methodology
Day1	Introduction to database system:-Definition, Limitations of traditional file system, Advantages of DBMS,	11/2/23	4	Lecture
Day2	Components of DBMS, Database Architecture	13/2/23	3	Lecture
Day3	Database Users, Schemas and instances,	14/2/23	2	Lecture
Day4	2 tier and 3 tier architecture,	15/2/23	4	Lecture
Day5	Database languages, Types of data models- relational, Network,	16/2/23	4	Lecture
Day6	Hierarchical, Distributed	17/2/23	3	Lecture
Day7	Transaction Management & Concurrency Control: -Introduction, Definition	18/2/23	4	Lecture
Day8	properties, transaction states, scheduling and its types,	20/2/23	4	Lecture
Day9	conflict and view serializability. Introduction to Concurrency Control	21/2/23	3	Lecture
Day10	problems of concurrency control. lock based protocols,	22/2/23	5	Lecture
Day11	timestamp-based protocol, deadlock,	23/2/23	1	Lecture
Day12	deadlock handling. Database recovery and Atomicity: -Introduction, recovery algorithms,	24/2/23	3	Lecture
Day13	log base recovery, shadow paging, checkpoints or syncpoints or savepoints	25/2/23	2	Lecture
Day14	MCQ Test	26/2/23	2	Test
Day15	SQL: DDL, DML, DCL,	28/2/23	3	Lecture
Day16	select: From, Where, Order by, Group by, Having, Intersect, Union,	1/3/23	4	Lecture
Day17	Distinct, Between, In, Between, Different types of functions, Delete,	2/3/23	5	Lecture
Day18	Update, Insert, Nested queries, joins, create, alter and drop,	4/3/23	6 5	Lecture

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Day19	constrains, index, views, Triggers, Grant, Revoke, Commit, RollBack, Savepoint	6/3/23	3	Lecture
Day20	Introduction to PL/SQL, Advantages, Architecture, Datatypes,	7/3/23	3	Lecture
Day21	Variable and Constants, Using Built_in Functions, Conditional, Looping and Iterations Statements.	8/3/23	2	Lecture
Day22	Cursor in PL/SQL: Types of Cursors, Cursor Attributes, Cursor with Parameters, Cursors with LOOPs Nested Cursors,	9/3/23	3	Lecture
Day23	Cursors with Sub Queries and procedure. Procedures in PL/SQL: STORED PROCEDURES, PROCEDURE with Parameters (IN,OUT and IN OUT),	10/3/23	4	Lecture
Day24	Dropping a Procedure.	11/3/23	3	Lecture
Day25	Functions in PL/SQL: Difference between Procedures and Functions,	13/3/23	4	Lecture
Day26	types of functions and parameter modes	16/3/23	3	Test
Day27	Exceptions in PL/SQL	15/3/23	2	Test
Day28	Unit Test	17/3/23	2	Test

NAME OF HOD

Syrwase J. R.

SIGN OF HOD

PRINCIPAL

Hemuji Chandele College Shelgaon (R)

Tal-Barshi, Dist-Solapur

SINGATURE OF PRINCIPAL

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