BOTANY: **2017**

Time: 15 min **Max. Marks: 09**

Section "A" (Multiple Choice Questions)

Q1. Choose the correct answer for each from the given options:

1- Heterospary is a characteristics of:
   a. Lycopodium
   b. Selaginella
   c. Equisetum
   d. Ulva

2- Sexual reproduction is not found in:
   a. Ascoraycota
   b. Deuteromycota
   c. Zygonycota
   d. Basidiomycota

3-Becteria grow and multiply very rapidly in this phase:
   a. LAG
   b. LOG
   c. Stationary
   d. Decline

4- Dominant generation in Bryophytes is:
   a. Thallus
   b. Gametophyte
   c. Sporophyte
   d. Antheridium

5- This type of Endocytosis involves intgestion of solid materials:
   a. Solidocytosis
   b. Phagocytosis
   c. Pinocytosis
   d. Exocytosis

6- Complete oxidation of glucose molecules takes place in:
   a. Alcoholic fermentation
   b. Lactic acid fermentation
   c. Aerobic respiration
   d. Anaerobic respiration

7- In angiosperm, reproductive part is the:
   a. Flower
   b. Leaf
   c. Root
   d. Stem

8- Glycolysis in this part of the cell:
   a. Cytoplasm
   b. Golgi bodies
   c. Mitochondria
   d. Chloroplast

9- All prokaryotes are classified in kingdom:
   a. Plantae
   b. Protoctista
   c. Fungi
   d. Monera

10- Special leaves which bear sporangia are called:
   a. Paraphyses

b. Protonema
c. Sporopollenin
d. Sporophylls

11- In aerobic respiration, complete oxidation of one glucose molecules produces:
a. 42 ATP
b. 38 ATP
c. 34 ATP
d. 30 ATP

12- non-living part of a plant cell is:
a. Tonoplast
b. Cell Wall
c. Cell membrane
d. Nuclear memberane

13- The water potential of pure water is:
a. -10
b. 0
c. 10
d. 100

14- This protoctist has isomorphic alternation of generation:
a. Phytophthora
b. Chlorella
c. Euglena
d. Ulva

15- Carnivorous plant trap insects to meet the deficiency of:
a. Potassium
b. Phosphate
c. Nitrogen
d. Calcium

16- The primary electron acceptor of pigment system II or Ps II is:
a. Plastroquinone
b. Plastocyanin
c. Ferrodoxin
d. Pheophytin

17- Yeast generate reproduces by:
a. Conidia
b. Sperm
c. Budding
d. Fission

18- Dark reaction of Photosynthesis occurs in:
a. Stroma
b. Thylakoid
c. Cytoplasm of leaf cell
d. Grana

BOTANY **2017**

Time: *I* Hours 45 Minutes Marks: 36

SECTION 'B' (SHORT-ANSWER QUESTIONS) (22)

NOTE: Answer 11 questions from this section.

Q2

(i) Define Isomorphic alternation of generation.

(ii) State one function each of the following:
(a) Ribosome (b) Mitochondria

(iii) How is bacterial cell wall different from plant cell wall?

(iv) Name various types of Ascocarp.
(v) Name various components of the nucleus.
(vi) What is plasmid?
(vii) What are Mycorrhiza?
(viii) Define Heterogamy.
(ix) Name three pathways of water absorption in plants.
(x) Write the floral formula of family Solanaceae.
(xi) Name any two diseases caused by virus.
(xii) Write the botanical names of any two of the following:

- Wheat
- Apple
- Tomato
- Amaltas

(Xiii) Name different parts of a Carpel.
(xiv) Define Ascent of Sap.
(xv) Which compound receives CO_2 during dark reaction?
(xvi) Name only two types of fermentation.

Q3. Attempt any six part questions. Each questions carries two marks.

(i) Name only the sub-division Of Tracheophyta.
(ii) Name only 4 group. of fungi with their reproductiv structures.
(iii) Draw a labeled diagram of Bacteeriophage virus.
(iv) Why is ATP called energy currency?
(v) State the postulates of cell theory.
(vi) Discuss why transpiration Is a necessary evil.
(vii) Why is photorespiration considered a wasteful process?
(viii) How are bacteria classified on the basis of flagella?
(ix) Draw a labeled diagram of any one of the follwomg:

(i) L.S. of Ovule (ii) *TIS.* of Marchantia thallus

SECTION'C' (DETAILED- ANSWER QUESTIONS)

NOTE: Answer 2 question from this section **(l4)**

4. Draw and describe the life cycle of Moss of Pinus.
5. Give the floral formula, floral diagram and one botanical name each from any two of the following:

- Rosaceae
- Fabaceae
- Mimoaaceae

6 Draw and describe the life cycle of Zygomycota or Ascomyeota fungi.
7. With the help of a flow chart, describe the breakdown of ghucose into pyruvaree during glycolysis.
8. Define translocation. How does E. Munch hypothesis describe the translocation of food in plants?

BOTANY 2016

Time: 15 Minutes Max. Marks: 09

SECTION "A" (MULTIPLE CHOICE QUESTION)

1. Choose the correct answer for each from the given options:

(i) The process of absorption of water and swelling up of hydrophilic substances is known as:

a. Plasmolysis
b. Osmosis
c. Imbibition
d. Deplasmolysis

(ii) The fungus phytopthora causes a disease known as:
a. late blight of Potato
b. Late blight of Tomato
c. Early blight of Potato
d. Early blight of Tomato

(iii) Photosynthetic Bacteria liberate:
a. CO_2
b. Oo_2
c. S
d. H_2S

(iv) Hydathodes take part in the process of:
a. Transpiration
b. Guttation
c. Ascent of sap
d. Translocation

(v) The member of pteridophyte, which is commonly called Horse tails', its example is:
a. Selaginella
b. Eguisetum
c. Psilotum
d. Adiantum

(vi) Hepatitis-type which passes through blood from mother to child during pregnancy is:
a. A
b. B
c. C
d. E

(vii) Fertilization in spermatophytes does not need water because of: -
a. Style
b. Anther
c. Pollen tube
d. Stigma

(viii) The hollow filamentous appendages that help during conjugation are called:
a. Flagella
b. Pilli
c. Cilia
d. Capsule

(ix) Yeast are unicellular and belong to:
a. Deutromycota
b. Ascomycota
c. Besidiomycota
d. Zygomycota

(x) Herpes, Shingles, Cancer and Poxes in human beings are caused by:
a. Bacteria
b. Fungi
c. Viruses
d. Yeast

(xi) Fixation of CO_2 is catalyzed by:

a. Decarboxylase
b. Rubisco
c. PEPC
d. Pepsin

(xii) Muscle fatigue may be caused by the accumulation of:
a. Citric acid
b. Lactic acid
c. Hydrochloric acid
d. Nucleic acid

(xiii) In Electron Microscope, the source of light is:
a. Ordinary light
b. Infrared light
c. Electron beam
d. Ultra violet light

(xiv) The Fungi, in which sexual Reproduction is Lacking, belong to the class:
a. Zygomycota
b. Basidiomycota
c. Deutromycota
d. Ascomycota

(xv) The basic unit of Biological classification is:
a. Division
b. Species
c. Class
d. Order

(xvi) Almond belongs to the family:
a. Poaceae
b. Fabaceae
c. Rosaceae
d. Solanaceae

(xvii) Ovary is slightly obliquely placed in this family:
a. Caesalpiniaceae
b. Solanaceae
c. Rosaceae
d. Poaceae

(xviii) Chloroplast contains densely packed stacks of thylakoids known as
a. Stroma
b. Grana
c. Frets
d. Matrix

BOTANY **2016**

Time: I Hours 45 Minutes Marks: 36

SECTION 'B' (SHORT-ANSWER QUESTION) (22)

NOTE: Answer 11 questions from this section.

Q2

(i) Name four groups of Fungi with their reproductive organs.
(ii) What is the cause of Lysosomal storage diseases? Name them.
(iii) Write the salient features of Cyanobacteria.
(iv) Write the botanical names of any four of the following:
a. Brinjal

b. Tomato
c. Pear
d. Sweet pea
e. Rice.

(v) Distinguish between any one of the following:
(i) Angiosperm and Gymnospern
(ii) Photosynthesis and Respiration

(vi) Name major groups of Vascular plants with examples.
(vii) Write note on the Evolution of Leaf or seed.
(viii) Describe the deficiency symptoms of Nitrogen or Potassium in plants.
(ix) Write a note on Nucleus or Endoplasmic reticulum.
(x) What are the three different pathway available in root for water to enter Xylem?
(xi) Define any two of the following:
a. Active transport
b. Plasmolysis
c. Osmosis
d. Imbibitions

(xii) Define Transpiration. Describe its various types in plant.
(Xiii) Methods of Genetic recombination in Bacteria.
(xiv) Write a note on oxidative phosphorylation.
(xv) Write the economic importance of fermentation,
(xvi) Write a note on Alternative mechanism of CO_2 fixation.

SECTION'C' (DETAILED QUESTION ANSWERS)

NOTE: Answer 2 question from this section (14)

3. Describe floral character, floral formula, floral diagram and economic importance of family Sotanaceac or Fabaceae.
4. Describe the life cycle of Fern.
5. With the help of Fluid Mosaic Model write the structure, properties and functions of plasma membrane.

OR

Define Photosynthesis, Describe the light dependent reactions of Photosynthesis.

BOTANY **2015**

Time: 15 Minutes Max. Marks: 09

SECTION "A" (MULTIPLE CHOICE QUESTION)

1. Choose the correct answer for each from the given options:

(i) Flow of energy in an ecosystem is:
a. Cyclic
b. Non-Cyclic
c. Uni-directional
d. Multi-directional

(ii) This is not a member of basidiomycota:
a. Jelly Fungi
b. Puffballs
c. Mushrooms
d. Neurospora

(iii) Excess water in plants is forced out in the form of droplets through:

a. Cuticle
b. Hydathode
c. Stomata
d. Lenticels

(iv)Family in which ovary is obliquely placed is:
a. Rosceae
b. Solanaceae
c. Poaceae
d. Caesalpinaceae

(v) This protein is present in microtubles:
a. Actin
b. Tubulin
c. Keratin
d. Myosin

(vi) A chromosome with equal arms is:
a. Acrocentric
b. Telocentric
c. Submetacentric
d. Metaceritric

(vii) By this process pyruvate convert into three molecules of CO_2:
a. C3 cycle
b. C4 cycle
c. Glycolysis
d. Kreb cycle

(viii) Psrasexuality occurs in:
a. Ascomycota
b. Basidiomycota
c. Deuteromycota
d. Zygomycota

(ix) Late blight of Potato is caused by:
a. Yeast
b. Puccinia
c. Ustilago
d. Phytophthora

(x) During this stage bacteria grow & multiply rapidly:
a. LAG phase
b. LOG phase
c. Stationary phase
d. Decline phase

(xi) Mad crow disease is caused by:
a. Virus
b. Viroid
c. Prion
d. Bacteria

(xii) Enzyme responsible for the Carboxylation in Calvin Benson cycle is:
a. Rubisco
b. Pepsin
c. Peptide
d. Isormerase

(xiii) Dark reaction of Photosynthesis occur in:

a. Granurn
b. Mitochondria
c. Stroma
d. Ribosome

(xiv) In woody stem transpiration takes place through:
a. Stomata
b. Lenticels
c. Cuticle
d. Hydathodes

(xv) Bacteria which can only survive in the presence of oxygen are:
a. Obligate aerobes
b. Facultative anerobes
c. Obligate anaerobes
d. Facultative anaerobes

(xvi) Encephalitis and dengue fever are caused by:
a. Rhinoviruses
b. Paramyxoviruses
c. Rhabdoviruses
d. Arboviruses

(xvii) Aspergillus flavus produce this carcinogenic toin:
a. Aflatoxin
b. Mycotoxin
c. Neuotoxin
d. Haematoxin

(xviii) In chlorella reproduction takes place by means of:
a. Zoospores
b. Gametes
c. Conidia
d. Aplanospores

BOTANY **2015**

Time: I Hours 45 Minutes Marks: 36

SECTION 'B' (SHORT-ANSWER QUESTION) (22)

NOTE: Answer 11 questions from this section.

Q2

(i) Who proposed cell theory? State postulates of the theory.
(ii) Write note on Mitochondria of Plastids.
(iii) State the role of water or chlorophyll in Photosynthesis.
(iv) Name five kingdoms proposed by Whittaker.
(v) Describe the importance and deficiency symptoms of nitrogen in Plants.
(vi) State the structure of Rhynia Plant or write note on Lichen.
(vii) Distinguish between any one of the following:
- Aerobic Respiration and Anaerobic Respiration
- Angiosperm and Gymnosperm

(viii) Write note on transmission of HIV.
(ix) State the economic importance of family poaceae.
(x) Write down the botanical names of any four of the following:
- Rice
- Potato

- Tomato
- Wheat
- Tamarind

(xi) State four important events take place during light dependent reaction of photosynthesis.
(xii) Explain Source — Sink Movement.
(xiii) Draw a labeled diagram of any one of the following:

- L.S. of Male Cone of Pinus
- L.S. of Ovule of an angiospermic plant

(xiv) How Bacteria are classified on the basis of flagella.
(xv) Draw an outline of classification of Kingdon Plaitae.
(xvi) Define any Two of the following:

- Plasmolysis
- Diffusion
- Water Potential
- Imbibition

SECTION'C' (DETAILED QUESTION ANSWERS)

NOTE: Answer 2 question from this section (14)

3. Describe lytic cycle of Bacteriophage and distinguish it from Lysogenic cycle.
OR
Describe the structure and reproduction in Ulva with reference to Isomorphic alternation of generation.
4. Describe floral characters, floral formula, floral diagram & economic importance of family Rosaceae of Fabaceae.
5. Describe the process of Glycolysis. Also draw flowchart OR Describe the mechanism of Ascent of Sap.

BOTANY **2015**

Time: 15 Minutes Max. Marks: 09

SECTION "A" (MULTIPLE CHOICE QUESTION)

1. Choose the correct answer for each from the given options:

(i) The Amoeboid stage of Slime mold is. Called
(a) Plasmodium
(b) Water model
(c) Entamoeba
(d) none of these
(ii) These Fungi lack sexual reproduction:
(a) Zygomycota
(b) Ascomycota
(c) Basidiothcota
(d) Deuteromycota
(iii) This is heterosporous:
(a) Rhynia
(b) Selaginella
(c) Moss
(d) Lycopodium
(iv) Hydathodes take part in the process of:
(a) Transpiration
(b) Translocation

(c) Guttation
(d) Ascent of sap

(v) Chloroplast contains densely packed stacks of thylakoids known as:
(a) Stroma
(b) Grana
(c) Frets
(d) Matrix

(vi) Lycopersicum-esculentum is the biological name of:
(a) Brinjal
(b) Potato
(c) Tomato
(d) Apple

(vii) Fertilization in Spermatophytes does not need water because of:
(a) roots
(b) pollen tubes
(c) styles
(d) stigma

(viii) During pregnancy, this type of hepatitis passes through mother to child via blood:
(a) A
(b) B
(c) C
(d) D

(ix) Oyster mushroom is an example of:
(a) Symbiotic fungi
(b) Parasitic fungi
(c) Saprophytic fungi
(d) Predator fungi

(x) Bryophytes are:
(a) Non-vascular plants
(b) Vascular plants
(c) Aquatic plants
(d) none of these

(xi) Seed plants are included in:
(a) Psilopside
(b) Lycopsida
(c) Sphenopsida
(d) Spermopsida

(xii) Process of absorption of water and swelling up of hydrophilic substance is known as:
(a) Plasmolysis
(b) De-plasmolysis
(c) Imbibition
(d) Osmosis

(xiii) Late blight of potato is caused by:
(a) Phytophthora
(b) Puccinia
(c) Penicillium
(d) Mucor

(xiv) Ulva is also known as:
(a) Sea-grass
(b) Sea-lettuce

(c) Sea-urchin
(d) none of these

(xv) Bacteria grow and multiply very rapidly during:
(a) LAG phase
(b) LOG phase
(c) Stationary phase
(d) Declining phase

(xvi) Cell membrane is composed of:
(a) Protein & Carbohydrate
(b) Carbohydrate Liçig
(c) Protein and Lipid
(d) Lipid

(xvii) The process which cell membrane absorb solid particles is called:
(a) Pinocytosis
(b) Diffusion
(c) Phagocytiosis
(d) Absorption

(xviii) The final tool for classification is:
(a) Cytology
(b) Homology
(c) Biochemistry
(d) Genetics

BOTANY **2014**

Time: I Hours 45 Minutes Marks: 36

SECTION 'B' (SHORT-ANSWER QUESTION) (22)

NOTE: Answer 11 questions from this section.

Q2.

(i) Draw a labeled diagram of Fluid mosaic model of cell membrane.
(ii) Define any one of the following:
(a) Facilitated diffusion (b) Active transport (c) Plasmolysis
(iii) Trace the evolution of leaf in green plants.
(iv) Draw a labeled diagram of any one:
(a) Bacteriophage virus (b) L.S. of Ovule
(v) State the role of Phosphorus **OR** Potassium in the development of plants and its deficiency symptoms.
(vi) Explain the two factors which affect the opening and closing of Stomata.
(vii) How are Bacteria classified on the basis of Flagella?
(viii) Name any four Viral disease with their respective causative agents.
(ix) Why do biologists consider kingdom Protoctista as a polyphyletic group of organisms?
(x) Write a note on Oxidative phosphorylation.
(xi) Draw a diagram showing efficiency of Food chain.
(xii) Name five major groups of Tracheophyta with examples.
(xiii) Write a note on Lysosomal storage disease.
(xiv) Discuss the techniques to isolate the components of a cell. (xv) Write a note on Cytoskeleton OR Nucleus.
(xvi) Differentiate between Prokaryotes and Eukaryotes.
Q Draw structure of Chlorella (no description is required)

SECTION'C' (DETAILED QUESTION ANSWERS)

NOTE: Answer 2 question from this section (14)

3. Descre and drawttl life cycle of a Basidiomycetes
fungus. bR Define HIV virus. Describe the
disease caused by this virus.
4. Discuss the life cycle of Moss.
5. Give floral characters, floral formula, floral diagram and
economic importance of family Solanaceae.
OR
Explain the events that take place during light reaction of photosynthesis.

BOTANY **2013**

Time: 15 Minutes Max. Marks: 09

SECTION "A" (MULTIPLE CHOICE QUESTION)

1. Choose the correct answer for each from the given options:

(i) Para sexuality occurs in:
- (a) Deutermyeota
- (b) Ascomycota
- (c) Zygomycota
- (d) Basidiomycota

(ii) Phytopthora infestans causes disease known as:
- (a) Early blight of potato
- (b) Late blight of potato
- (c) Late blight of tomato
- (d) Early blight of tomato

(iii) In this Taxonomic family the ovary is obliquely placed:
- (a) Poaceae
- (b) Rosaceae
- (c) Solanaceae
- (d) Caesalpinaceae.

(iv) This special type of fertilization occurs Only in angiospermic plant:
- (a) Polygamy
- (b) Pollination
- (c) Double Fertilization
- (d) Parthenogenesis

(v) Datura Alba is an example of family:
- (a) Fabaceae
- (b) Poaceae
- (c) Mimosaceae
- (d) Solanaceae

(vi) This organelle releases oxygen:
- (a) Ribosomes
- (b) Mitochondria
- (c) Chloroplast
- (d) Golgi bodies

(vii) Plant-like protoctist isfare:
- (a) Algae
- (b) Fungi
- (c) Slime mold
- (d) Protozoa

(viii) Rice belongs to this family:

(a) Poaceae
(b) Rosaceae
(c) Solanaceae
(d) Caesalpiriiaceae

(ix) Yeats are unicellular and belong to:
(a) Ascomycota
(b) Dueteromycota
(c) Zygomycota
(d) Basidiomycota

(x) Mitochondria are the centres of:
(a) Aerobic Respiration
(b) Photosynthesis
(c) Transpiration
(d) Anareoblc Respiration

(xi) Mucor and Rhizopus belong to:
(a) Zyciomycota
(b) Basidiomycota
(c) Ascomycota
(d) Deuteromycota

(xii) This main constituent of plant cell wall is used to manufacture paper:
(a) Cellulose (b) Pectin (c) Lignin (d) none of these

(xiii) A mutualistic association between fungi and roots of vascular plants Is called:
(a) Lytic cycle
(b) Mycorrhizae
(c) Lichens
(d) Lysogenic cycle

(xiv) Non-vascular plants are known as:
(a) Pteridophyta
(b) Bryophyta
(c) Gymnosperms
(d) Angiosperms

(xv) Carnivorus plants grow in habits with low content of this element:
(a) Calcium (b) Nitrogen (c) Phosphorus (d) Potassium

(xvi) The fungi, in which sexual reproduction is lacking, ielongtoclass:
(a) Zygomcota
(b) Bsidigmycota
(c) Deutromycota
(d) Asconycota

(xvii) In electron microscope, the source of light used is:
(a) Ordinary daylight
(b) Ultraviolet light
(c) Beam of electrons
(d) Infrared light

(xviii) Animal-like phase of slime-mold is:
(a) Fruiting bodies (b) Spirangia (c) Plasmodium (d) Spores

BOTANY

Time: I Hours 45 Minutes Marks: 36

SECTION 'B' (SHORT-ANSWER QUESTION) (22)

NOTE: Answer 11 questions from this section.

Q2.

(i) Explain the role of water during photosynthesis.

(ii) Describe the silent features of Blue-green algae.

(iii) Write a short note on Mycelium.

OR

State the names of the four groups of Fungi along with their reproductive structures.

(iv) Draw the outline of the classification of kingdom plantae

(v) Write the botanical names of 4of the following plants:

(a) Rice (b) Wheat (c) Tomato (d) Kachnar (e) Almond

(vi) What changes are proposed by Margulis and Schwartz in the five kingdom system of R. Whittaker?

(vii) Draw a labelled diagram of any One of the following:

(a) L.S. of male cone of Pinus (b) T.S. of Marchantia Thallus

(viii) Write note on any one of the following:

(a) Rhynia (b) Photorespiration

(ix) Describe anaerobic breakdown of Pyruvic acid.

(x) Write only the names of any five important diseases caused by Viruses & also mention names of each Virus.

(xi) Differentiate between Aerobic & Anaerobic Respiration.

(xii) Write a note on deficiency symptoms of Nitrogen.

(xiii) Write a note on Lichens OR Yeast

(xiv) Draw a chart showing the Efficiency of food chain.

(xv) Write a note on Plastid OR Mitochondria.

(xvi) Write a note on any One of the following:

(a) Osmosis (b) Imbibition (c) Facilitated diffusion

SECTION'C' (DETAILED QUESTION ANSWERS)

NOTE: Answer 2 question from this section (14)

3. Define Photosynthesis. Describe the fixation of CO2 during Benson and Calvin cycle.

4. Give the Floral charactets, Floral formula, Floral diagram & Economic importance of family Rosaceae OR Fabacea

5. Define source to sink movement How does the Pressure flow hypothesis. explain the mechanism of translocation of food? OR besáribe the life cycle of Fern

BOTANY **2012**

Time: 15 Minutes Max. Marks: 09

SECTION "A" (MULTIPLE CHOICE QUESTION)

1. Choose the correct answer for each from the given options:

(i) Serious infection of lungs Is:

(a) Aspergillosis (b) HistoplaSmosis

(c) Monillasis (d) Amoebiosis

(ii) Asporgillus flavus produces carcinogenic toxin called:

(a) Aflatoxin (b) Neurotoxin

(c) Haematosin (d) Mycotoxin

(iii) Capsicum annum (Rod Pepper) is an example of:

(a) Solanacoac (b) Fibaccae (c) Poaceae (ci) Rosaccae

(iv) Pollen grains are produced in:

(a) Stigma (b) Ovary (C) Anther)d) Ovule

(v) Flow of Energy in an Ecosystem is:
(a) cyclic (b) non-cyclic (c) un-idirectional (d) multi-directional
(vi) Chromosmes with equal arms are called:
(a) Telocentric (b) Metaceritric
(c) Submotacentric (d(Acrocentric.
(vii) Energy is required for:
(a) active transport (b) diffusion Ic) facilitated diffusion)d(all of ths
(viii) This type of Hepalitis is passed oil throuh blood froiil mother to child during pregnancy: V
(a) A (b) B (c) c (d) D
(ix) Dark reaction of Photosynthesis occurs in:
(a) Stroma (b) Granuin tc) Mitochondria (d) Ribosomo
(x) Late blight of Potato is caused by:
(a) Yeast (b) Puccinia (C) Ustilarjo)d(yfpplliora
(xi) Measles and mumps in humans are caused by:
(a) Rhino viruses)b) Abro viruses
(c) Paramyxo viruses (d) Rhabdo viruses
(xii) The primary electron acceptor in Pholosysteni I) is:
(a) Plastoquinone (b) Plastocyanin
(c) Phaelophyten (d) Ferridoxin
(xiii) These extremely thin appendages help during conjugation in Bacteria:
(a) Flagella (b) Pill, (c) Cilia (d) Tentacles
(xiv) This organello has somi autonomous existence in the colt:
(a) Endoplasmic reticulum (b) Peroxisoine
(c) Mitochondrion (d) Golgi body
(xv) Mitochondria are the centers of:
(a) Aerobic respiration)b) Photosynthesis
(c) Trapsplxation. V (d) Anaeroblo r,spiration
(xvi) Those non-motile spores are formed from certain vegetative cells during unfavourable conditions in Nostoc:
(a) Hetercyst (b) Hormogonium
(c) Akinete (d) Coenobium
(xvii) Photosynthetic bacteria liberate:
(a) CO2 (b(02 (c) S (d) H2S
(xviii) Yeast are unicellular and belong to:
(a) Basidiomycota (b) Ascorrrycota (d) Deuteromycota (d) Zygomycota

BOTANY **2012**

Time: 1 Hours 45 Minutes Marks: 36

SECTION 'B' (SHORT-ANSWER QUESTION) (22)

NOTE: Answer 11 questions from this section.

Q2.
(i) Write silent features of Cynobacteria.
(ii) Dilferentiate between any One:
(a) Angiosperms and Gymnosperms
(b) Algae and Fungi
(iii) Draw a labelled diagram of any One:
(a) L.S. Female cone of Pinus
(b) L.S. of Ovule

(iv) Give the Economic importance of family Poaceae.
(v) Write a note on Yeast or Lichens.
(vi) Write a note on Cell Theory.
(Vii) Write a note on the efficiency of Energy flow and its significance.
(viii) Why is ATP called Energy carry?
(ix) Write a note on Viroids and prions
(x) Name four group of Fungi with their reproductive structure.
(xi) Write botanical names of any four of the following Plants
   (a) Potato
   (b) Tamarind Rice
   (c) Tomato Rose
   (d) Sweet pea
(xii) Draw a labeled diagram of Bacteria cell.
(xiii) Write a note on Chloroplast or Mitochondria.
(xiv) Write three steps involved in the Evolution of seed.
(xv) Name five kingdoms proposed by Whittaker.
(xvi) Distinguish between Osmosis and Diffusion.

SECTION'C' (DETAILED QUESTION ANSWERS)

NOTE: Answer 2 question from this section (14)

3. Describe the structure and reproduction in Ulva with reference to Isomorphic alternation of generation.
4. Give floral characters, floral formula, floral diagram and economic importance of family Solanaceae &Fabaceae.
5. Describe the aerobic degradation of Pyruvic acid. OR Define Transpiration 8 its types. Describe the structure and mechanism of opening and closing of Stomata.

BOTANY **2011**

Time: 15 Minutes Max. Marks: 09

SECTION "A" (MULTIPLE CHOICE QUESTION)

1. Choose the correct answer for each from the given options:

(i) The bacterial cell wall is digested by enzyme called:
   (a) Lysozyme
   (b) Amylase
   (c) Phosphatase
   (d) Hesokinase
(ii) The basic unit of biological classification is:
   (a) Division
   (b) Species
   (c) Class
   (d) Order
(iii) The main constituent of plant cell wail which is used to manufacture paper is called:
   (a) Cellulose
   (b) Pectin
   (c) Lignin
   (d) none of these
(iv) The fastest mode of asexual reproduction found in unicellular organisms is:
   (a) Fission
   (b) Conjugation

(c) Mitosis
(d) Meiosis

(v) The Marine alga which is commonly called sea-lettuce is:
(a) Chioreila
(b) Ulva
(c) Spirodyra
(d) Englena

(vi) The pathogenic organism causing late blight of potato is:
(a) Albugo Candida
(b) Phytophthora Infestans
(c) Alternaria solani
(d) Mucor mucedo

(vii) The type of alternation of generation in Ulva Is:
(a) Autotrophic
(b) Hetorotrophic
(c) Heteromorphic
(d) lsomorphic

(viii) A mutualistic association between fungi and roots of vascular plants is called:
(a) Lytic cycle
(b) Mycorrhizae
(c) Lichen
(d) Lysogenic cycle

(ix) The formation of a new mycelium from each broken piece of hyphal fungi is called:
(a) Karyogamy
(b) budding
(c) Fragmentatlon
(d) plasmogamy

(x) Production of two types of spores in selaginella is called
(a) Heterospory
(b) Homospory
(c) Vivipary
(d) Oogamy

(xi) The pistil of the flower has these three parts:
(a) Anther, connective & filament
(b) Stigma style & overy
(c) Thalamus, calyx and corolla
(d) Root, shoot

(xii) Special type of fertilization that occurs in an anglospermic plant Is known as:
(a) Pollination
(b) Polygamy
(c) double fertilization
(d) Parthenogensis

(xiii) Datura alba (Thorn Apple) is an example family:
(a) Fabaceae
(b) Poaceae
(c) Mimosaceae
(d) Ioianaceae

(xiv) The process of respiration occurs in all living cells of plants constantly.
(a) during day time only
(b) during sun light

(a) during day and night
(b) during night time only

(xv) The process which co vt%, yruvic acid into three molecules of CO2 Is:
(a) C3 cycle
(b) C4 cycl
(c) TCA cycle
(d) CalvIn Cycle

(xvi) Isolation of cellular components to determine their chemical compeeitlon is called:
(a) Fractionation
(b) Segregation
(c) Purification
(d) Fragmentation

(xvii) Singer and nichison (1972) proposed a working model of plasma membrane which is called:
(a) Waston a circks Model
(b) Fluld Mosaic Model
(c) lnduce fit Model
(d) Dalton's Atomic Model

BOTANY **2011**

Time: I Hours 45 Minutes Marks: 36

SECTION 'B' (SHORT-ANSWER QUESTION) (22)

NOTE: Answer 11 questions from this section.

2.(i) What are the three principles of cell theory?
(ii) Describe the types of plastids.
(iii) What are modifications proposed by Margulis & Schwartz In the Whittakers scheme of five kingdom system?
(iv) Write a note on Control of Bacteria,
(v) What are the salient features of Cynobacteria?
(vi) Describe the reproduction in Ulva.
(vii) Write a note on anyone:
(a) Mitochondrla (b) Nucleus
(viii) Distinguish between aerobic and an-aerobic respiration.
(ix) What Is the economic importance of fermentation?
(x) Write a note on evolution of leaf.
(xi) What are the three steps in the evolution of seed?
(xii) Draw floral formula & floral diagram of family Fabaceae.
(xiii) What Is the role of phosphorus in plants? Give its deficiency symptoms.
(xiv) How does exchange of gases take place in plants?
(xv) Give two familiar plants & their botanical names belonging to following families.
Rosaceae, Solanaceae, Poaceae.
(xvi) Draw diagram of anyone of the following.
(a) T.S. of Marchantla thallus
(b) L.S,of female cone of Pinus

SECTION'C' (DETAILED QUESTION ANSWERS)

NOTE: Answer 2 question from this section (14)

3. Give a detailed account of the life cycle of Bacteriophage.
4. What are fungi? Describe its one division in detail.
5. Give floral Characters, floral formula, floral diagram or &
economic importance of family Rosaceae or Solanaceae.

OR Define photosynthesis. Describe the light reaction of photosynthesis.

BOTANY **2010**

Time: 15 Minutes Max. Marks: 09

SECTION "A" (MULTIPLE CHOICE QUESTION)

1. Choose the correct answer for each from the given options:

(i) The oldest known vascular plant is:
(a) Fern (b) Cycas (c) Rhynia (d) Marctantja

(ii) This pair of diseases is viral:
(a) Yellow fever and Typhoid (b) Measles & Tetanus
(c)Tuberculosis and AIDS (d) Rabie8 & Mumps

(iii) Energy is required for:
(a) Active transport (b) Diffusion
(c) Facilitated diffusion (d) All of the

(iv) The flow of energy in an ecosystem is:
(a) Cyclic (b) Non-directional
(c) Unidirectional (d) Multidirectional

(v) The example of prokaryotes is:
(a) Euglena (b) Yeast
(c) Paramecium (d) Bacteria

(vi) Phytophthora is an example of:
(a) slime mold (b) water mold
(c) bread mold (d) toad stool

(vii) The centre of aerobic respiration is:
(a) Mitochondria (b) Ribosome
(c) Dictyosome (d) Lysosome

(viii) Spikelet inflorescence belongs to the family:
(a) Solonaceae (b) Mirnosaceae
(c) poaceae (d) Fabaceae

(ix) The one which Is motile is:
(a) oospore (b) zoospore
(c) zygospore (d) aplanospore

(x) The mode of nutrition in purple-sulphur bacteria is:
(a) Heterotrophic (b) Parasitic
(c) Photosynthesis (d) Chemosynthesis

(xi) The members of this group are called horse-tail:
(a) Spermopsida (b) Lycopsida
(c) Psilopsida (d) Sphenopsida

(xii) In the woody stem the exchange of gases takes place through:
(a)Cuticle (b) Stomata
(c) Lenticels (d) Hydathodes

(xiii) The total stem parasite is:
(a) Loranthes (b) Utricularia
(c) Viscum (d) Cuscuta

(xiv) Ovary is slightly obliquely in this family:
(a) Caesalpiniaceae (b) Solonaceae
(c) Rosaceae (d) Poaceae

(xv) Diadeiphous stamens are present in:
(a) Fabaceae (b) Caesalpiniaceae

(c) Poaceae (c) Roaceae

(xvi) Fungi in which sexual reproduction is lacking are called:

(a) Ascomycota (b) Zugomycota

(c) Basidiomycota (d) deuteromycota

(xvii) The boindicator of air pollution is:

(a) phytophthora (b) Marchantna

(c) Lichens (d) Bacteria

(xviii) This is considered the final tool for the classification of organisms:

(a) Biochemistry (b) Genetics

(c) Cytology (d) Homology

BOTANY **2010**

Time: I Hours 45 Minutes Marks: 36

SECTION 'B' (SHORT-ANSWER QUESTION) (22)

NOTE: Answer 11 questions from this section.

2.

(i) Describe the technique to Isolate the component of a Cell

(ii) What are the measures to control bacteria?

(iii) Write any two botanical names of plants belonging to the following families:

(a) Rosaceao (b) Solonaceae (c) Poaceao

(iv) Draw a labeled diagram of T.S. of Marchantia thallus.

(v) Describe briefly the method of asexual reproduction in Zygomycota.

(vi) Who proposed Cell Theory? Write 3 main principle of theory.

(vii) Write a note on Lysogenic Cycle of Bacteriophage.

(viii) Define any Four of the following:

(a) Heterospory (b) Heterogamy (c) Mycorrhlza (d) Akinetes (e) Species

(ix) Describe the structure and function of Chloroplast

OR

Mitochondria. (Diagram is not required)

(x) Mention the ways of the transmission of HIV virus.

(xi) Give four important events that take place during light reaction of Photosynthesis

(xii) Define any Four of the following:

(a) Diffusion (b) Phygocytosis (c) GuttatiOn

(d) Imbibition (e) Plasmolysis (f) Active TransPOlt

(xlii) What Is Heterospory? Give 3 steps in evolution of seed

(xlv) Describe briefly the importance and deficiency symptoms of nitrogen.

(xv) Give the economic importance of the family poaceae

(xvi) Define insectivorous plants. Describe the structure of any one insectivorous plant.

SECTION'C' (DETAILED QUESTION ANSWERS)

NOTE: Answer 2 question from this section (14)

3. What is triple fusion? Describe the process of fertilization in an angiosperm plant. What changes occur in the ovule after fertilization?

4. Describe the life cycle of Fern. Illustrate your answer reference to alternation of generations.

5. Differentiate Photosynthesis and Respiration. Describe in detail the process of Glycolysis Or Kreb Cycle.

OR

How does the pressure flow hypothesis explain the movement of sugar through the plant? Illustrate your answer with the help of a diagram.

BOTANY **2009**

Time: 15 Minutes Max. Marks: 09

SECTION "A" (MULTIPLE CHOICE QUESTION)

1. Choose the correct answer for each from the given options:

(i) Which organelle release oxygen?
(a) Ribosome (b) Mitochondria (C) Chloroplast(d) Golgi Bodies

(ii) Isomorphic Alternation of Generation is found in:
(a) Marchantia (b) Funaria (c) Chiorella (d) WY!

(iii) The fungi In which sexual reproduction Is lacking belongs to the class:
(a) Zygomcota (b) Basidiomycota
(c) Deuteromycpta (d) Ascomycota

(iv) The oxygen produced during photosynthesis comes from:
(a) Water (b) Soil (c) CO_2 (d) CO_2 & H_20 both

(v) The excess of water In plants is forced out In the from of droplets through:
(a) Lenticles (b) Stomata (c) Hydathodes (d) Cuticle

(vi) Which one is a membrane —bounded organells?
(a) Vacoule (b) Mitochondrla (C) Ribosome (d) Centriole

(vii) The production of two different types of gametes by plants is known as:
(a) Isogamy (b) Polygamy (c) Homo9amy (d) Hetroiamv

(viii) The fermentation of soya sauce is done by:
(a) Penicillium (b) Aspergillus (c) yeast (d) Neurospora

(ix) The non-vascular plants are known as:
(a) Pteidophyta (b) Bryophyta
(c) Gymnospemi (d) Angiosperm

(x) Alternate mechanism of carbon dioxide fixation during the dark reaction occurs In:
(a) C_4 plants (b) C_3 plants (c) C_6 plants (d) None of them

(xi) Carnivorous plants grow in habitats with the known content of:
(a) Phospho5 (b)Calclum (c)Potassium (d)Nitrogen

(xii) What are the function of Lysosome?
(a) intracellular Digestion (b) Protein Synthesis
(c) Lipids Formation (d) Intercellular Digestion

(xiii) Rice belongs to the family:
(a) Poaceae (b)Soianaceae (c)Rosaceae (d)Fabacea,

(xiv) It is not the pathway of water to enter the xylem through root:
(a) Apoplast (b)Symplast (c)Stomata (d)Cell to Cell

(xv) It is a polymer that resists all kinds of environmental damages:
(a) Sporopolleflin (b)WaXeS (c)Cuticlo (d)Llgnin

(xvi) In electron microscope the source of light used Is:
(a) Ordinary daylight (b) Ultravoilet light
(c) beam of electron (d) infrared light

(xvii) Plant like protoctist Is:
(a) Algae (b)Fungi (c)Slime mold (d)Protozoa

(xviii) Tomato belongs to the family:
(a) Solonaceae (b)Poaceae (c)Fabaceae (d)Rosaceae
(b)

BOTANY **2009**

Time: I Hours 45 Minutes Marks: 36

SECTION 'B' (SHORT-ANSWER QUESTION) (22)

NOTE: Answer 11 questions from this section.

Q2.

(i) Draw an outline of the classification of the Kingdom plantae.
(ii) Describe the structure and function of Mitochondria (No diagram is needed).
(iii) Draw only a labeled diagram of a Bacteriophage.
(iv) Describe the Binomial Nomenclature with one example OR write a short note on Lichens.
(v) Describe the different types of nutrition In bacteria
(vi) Describe the different types of Reproduction in Nostoc. (No diagram required).
(vii) Draw only the diagrammatic Life Cycle of Uiva. (No description is needed.
(viii) Describe the main features of basidiomycuta or Deuteromycota.
(ix) Explain the economic importance of Fungi.
(x) State the structure of Rhynia plant (Diagram is not required).
(xi) Distinguish between any One of the following parts.
    (a) Photosynthesis and Respiratory
    (b) Aerobic Respiratory and Anaerobic respiration
(xii) Why do we say that sporophyte of anthoCerOt9 S'° many advanced characters suitable for land environment?
(xiii) Draw a labeled diagram of the male Cone of Pinus in longitudinal section.
(xiv) Describe the role of water or the role of light during photosynthesis.
(xv) State three events that take place during the light- dependent reaction of photosynthesis.
(xvi) Describe Photorespiration or write down the economic importance of Poaceae.

SECTION'C' (DETAILED QUESTION ANSWERS)

NOTE: Answer 2 question from this section (14)

3. Describe the floral characters, floral formula, floral diagram and economic importance of the family Solanaceae or Fabaceae.
4. Define Ascent of Sap. Describe its mechanism.
OR Describe the characteristics, structure and classification of a Virus.
5. Define photosynthesis. Describe the fixation of carbon dioxide during photosynthesis.
Q3 What do you mean by energy flow In an Ecosystem? What is the role of his flow in the living world?

BOTANY **2008**

Time: I Hours 45 Minutes Mar**ks: 36**

NOTE: Answer any Three questions. All questions carry equal marks. Attempt all the parts of a question together in sequence. Draw neat and labeled diagrams. Where necessary.

Q1.

(a) Fill in the blanks with the correct answers: (03)

- Mitochondria is known as the ---------- of the cell.
- In bacteria locomotary organs are called ----------.
- The word 'virus' is derived from the Latin word which means ---------.
- ---------- causes many diseases such as yellow fever, measles. AIDS etc.
- Late blight potato is caused by ----------.
- In Basidiomycetes reproductive organs are called ----------.

(b) (i) What is the technique of isolating the components of a cell?
(ii) Give the salient features of cynobacteria.
(c) What is heterotrophic nutrition? Give various types of heterotrophc according to the mode of nutrition.

Q2.

(a) Write True or False for the following statements:

- Microscope is an instrument to observe very small objects.
- The cell wall is the controlling part of a cell.
- Bacteria were discovered by Leeuwenhoek in A.D. 1676.
- Bryophytes are vascular plants
- Gymnosperms are open - seeded plants.
- Fern prothallus is not a heart - shaped structure.

(b) (i) Write a short note on any One of the following:

- Source Sink Movement
- Advantage and Disadvantage of Transpiration
- Plasmolysis and Deplasmolysis

(ii) Draw a neat and labelled diagrammatic life cycle of Ulva.
(c) Define Respiration. Describe the aerobic degradation of pyruvic acid. OR_Define photosynthesis. Describe the mechanism of a light reaction in photosynthesis. (06)

Q3.

(a) Choose the correct answer for each from the given optionS
(i) Alternate mechanism of carbon dioxide fixation during a dark reaction Occurs in.

- C3 plants
- C4 plants
- C2 plants
- None of them

(ii) Chlorophyll In the chloroplast is located in

- Grafla
- Stroma
- Ribosome
- Pyrenoid

(iii) Cold diseases are caused by:
(a) Rhinovirus (b) Rhabdovirus (c) Bacteria (d) Retrovirus
(iv) The multinucleate unseptate mycelium is called:
(a) Lichen (b) Coenocytic (c) Columefla (d)Nostoc
(v) The non - vascular plants are called:
(a)Angiosperm (b) Gymnosperm (c) Bryophyta (d) None of them.
(vi) The nutrition in which energy is used by the oxidation of inorganic substances is called:
(a) phototropic (b) Chemotrophic (d) Heterotropic (d) Parasite
(b) (i) Write a short note on any One of the following:
(a) Lichen (b) Slime mold (c) Importance of bacteria
(ii) Draw a neat ani lablied diagram of L.S. of Selaginelia strobilus.
(c) Define a HIV. Describe the disease caused by this virus under the following heads:
(i) Transmission (ii) Symptoms (iii) Preventive Measures

Q4.

(a) Write True or False for the following statements:

- Hepatitis is a heart disease.
- Cell membrane is a respiratory organ in bacteria.
- Ulva shows isomorphic alternation of generations.
- Rhynia is a Bryophyta.

- Phloem helps in translocation of food.
- Vexillary aestivation is present in the family Fabaceae.

(b) (i) Describe the Cell Theoy.

(ii) Define the role of A.T.P. as energy currency.

(c) Write Short notes on any Three of the following:

(i) Evolution of Leaf (ii) Nucleus (iii) Plastid (iv) Mitochondria (v) Ribosome

Q5.

(a) Match the items of Column 'A' with those of Column B:

Column "A"	**Column "B"**
(a) Tobacce	(i) Mimosoideae
(b) Touch –Me—not	(ii) Poaceae
(C) Maize	(iii) Solanceae
(d) Bryophyta	(iv) Psiloturn.
(e) Psilopsida	(v) Marchantia
(I) Pteridophyta	(vi) Fern

(b) (i) Distinguish between any Two parts of the fotlowing:

- Light Microscope and Electron Microscope
- Prokaryole and Eukaryote
- Cell Wall and Cell membrane

(ii) Describe the structure of Angiospermic ovule or T.S. of Marchantia thallus.

(c) Describe only the floral character, floral formula and floral diagram with economic importance of the family Rosaceae or Mimosaceae.