


VIVEKANANDA COLLEGE, TIRUVEDAKAM WEST

(Autonomous & Residential)

[Affiliated to Madurai Kamaraj University]

B.Sc. Botany Degree (Semester) Examinations, April 2017

Part – III : Core Subject : Second Semester : Paper – I

PTERIDOPHYTES, GYMNASPERMS AND PALEO BOTANY

Under CBCS – Credit 4

 Time: **3** Hours

 Max. Marks: **75**
SECTION – A
Answer ALL Questions :
(10 × 1 = 10)

- Lycopodium* is
 - heterosporous
 - homosporous
 - eusporous
 - all the above
- _____ is the spore bearing structure in *Marsilea*.
 - Strobilus
 - Sorophore
 - Cone
 - Sporocarp
- In *Cycas*, vegetative reproduction takes place by means of
 - bulbils
 - tubers
 - fragmentation
 - buds
- In India, the first fossil plant was discovered in the year
 - 1913
 - 1838
 - 1828
 - 1938
- Lyginopteris* is a fossil of
 - Gymnosperms
 - Pteridophyte
 - Bryophyte
 - Angiosperms
- In *Psilotum*, spores are produced in specialized bodies called _____.
- Equisetum* is commonly called _____.
- In *Cycas*, ovules are _____ in position.
- Fossils are _____ plants.
- The type of stele in the stem of *Rhynia* is _____.

SECTION – B
Answer ALL Questions :
(5 × 7 = 35)

- a) Describe the sporophytic plant body of *Psilotum*.
(OR)
b) Discuss the types of stele found in *Lycopodium* stem.
- a) Describe the strobilus of *Equisetum* with the labeled diagram.
(OR)
b) Explain the anatomy of *Marsilea* rhizome.
- a) Explain the structure and functions of coralloid root of *cycas*.
(OR)
b) Describe the structure of ovule in *Gnetum*.
- a) Discuss the formation of fossils.
(OR)
b) Give an account on different types of fossils studied by you.
- a) Explain the classification, geological period and stem anatomy of *Rhynia*.
(OR)
b) Describe the classification, geological period and stem anatomy of *Calamites*.

SECTION – C
Answer any THREE Questions :
(3 × 10 = 30)

- Discuss the different types of gametophytes found in *Lycopodium*.
- Describe the structure of spore producing organ of *Marsilea*.
- Discuss the male and female cones of *Gnetum* and list out the angiospermic characters of *Gnetum*.
- Write a critical account on geological era.
- Describe the salient features of *Lyginopteris*.




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B.Sc. Botany Degree (Semester) Examinations, April 2017

Part – III : Core Subject : Second Semester : Paper – II

PLANT ANATOMY & MICROTECHNIQUES

Under CBCS – Credit 4

 Time: **3** Hours

 Max. Marks: **75**
SECTION – A
Answer ALL Questions :
(10 × 1 = 10)

- Middle lamella is made up of _____.
a) pectin b) cellulose c) Ca & Mg pectate d) Lignin
- In a dicot root, _____ contains passage cells opposite to xylem.
a) epidermis b) cortex c) endodermis d) pith
- Lenticels are formed due to the activity of _____.
a) cork cambium b) endodermis c) pericycle d) cortex
- A vascular bundle that connects the vascular system of the leaf with that of the Stem is called _____.
a) leaf gap b) lacuna c) leaf trace d) ramular trace
- Metals and metallic compounds are used along with certain dyes to stain the proteins and cytoplasm is called a _____.
a) mordant b. lake c) smear d) metachromasia
- The space found in between two pits is called _____.
- The parenchyma tissue present between the vascular bundle in a dicot stem is called _____.
- The secondary xylem produced during secondary growth in one year in dicot stem is known as _____.
- The node with a single gap and a simple trace to a leaf is known as _____.
- The technique of preparation of plant material for microscopic observation is called _____.

SECTION – B
Answer ALL Questions :
(5 × 7 = 35)

- 11.a) Explain the ultra structure of the cellwall.
(OR)
b) Discuss about the Tunica Carpus theory.
- 12.a) Compare the anatomical characters of dicot stem with monocot stem.
(OR)
b) Draw and describe the primary structure of a monocot root.
- 13.a) How does secondary growth occur in a dicot root?
(OR)
b) Comment on the abnormal behaviour of cambium in *Dracaena* with a labeled sketch.
- 14.a) Explain the formation of lateral roots.
(OR)
b) Give a note on nodal anatomy.
- 15.a) Discuss about the types of stains used in microtechnique.
(OR)
b) Illustrate the method of whole mount preparation.

SECTION – C
Answer any THREE Questions :
(3 × 10 = 30)

16. Give an account on simple tissues.
17. Explain the primary structure of a dicot stem with a labeled sketch.
18. Illustrate the anomalous secondary growth in *Boerhaavia* with a neat diagram.
19. Draw and describe the anatomy of a dicot leaf.
20. Write an essay about fixation of plant materials.




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B.Sc. Botany Degree (Semester) Examinations, April 2017

Part – III : Core Subject : Fourth Semester : Paper – I

CELL BIOLOGY & EMBRYOLOGY

Under CBCS – Credit 5

 Time: **3** Hours

 Max. Marks: **75**
SECTION – A
Answer ALL Questions :
(10 × 1 = 10)

- Proteins are synthesized by
 - Ribosomes
 - Mitochondria
 - Golgi apparatus
 - Lysosomes
- DNA replication takes place during
 - G₁ phase
 - G₂ phase
 - S phase
 - Prophase
- In microsporangium, a typical anther is
 - Unisporangiate
 - Bisporangiate
 - Trisporangiate
 - Tetrasporangiate
- The female gametophyte (embryo sac) is how many celled structure?
 - 3
 - 5
 - 7
 - 9
- Name the angiosperm family that do not form endosperm
 - Orchidaceae
 - Euphorbiaceae
 - Liliaceae
 - Rosaceae
- Power house of the cell is _____.
- The division of cytoplasm during cell division is called _____.
- The first division in a pollen grain results into two unequal cells. The larger one is the Vegetative cell and the smaller one is the _____.
- In female gametophyte, the antipodal cells may also store large quantities of _____.
- The fertilized egg is called _____.

SECTION – B
Answer ALL Questions :
(5 × 7 = 35)

- 11.a) Differentiate between prokaryotes and eukaryotes.

(OR)

- b) Explain the structure and functions of chloroplast.

- 12.a) What are the four stages of mitosis? Explain.

(OR)

- b) Give an over view of different phases of cell cycle.

- 13.a) What are the two types of tapetum? Mention its functions.

(OR)

- b) Discuss the structure of mature anther wall.

- 14.a) What is double fertilization? What are the post pollination changes in the embryo sac?

(OR)

- b) Discuss the development of bisporic embryo sacs.

- 15.a) Analyse the development of monocot embryo.

(OR)

- b) Describe the development of dicot embryo.

SECTION – C
Answer any THREE Questions :
(3 × 10 = 30)

16. Describe the structure and functions of chromosome.
17. Illustrate the different stages of meiosis. Write its significance.
18. Discuss the development of male gametophyte.
19. Give an account on megasporogenesis.
20. Describe the different types of Endosperm. Give its significance and functions.




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B.Sc. Botany Degree (Semester) Examinations, April 2017

Part – III : Core Subject : Fourth Semester : Paper – II

PLANT ECOLOGY

Under CBCS – Credit 3

 Time: **3** Hours

 Max. Marks: **75**
SECTION – A
Answer ALL Questions :

(10 × 1 = 10)

- An association in which ants are living on plants by getting food and shelter from them is called _____.
 a) hydrophyllly b) myremecophily
 c) commensalism d) allelopathy
- An example for rooted floating hydrophyte is _____.
 a) *Hydrilla* b) *Pistia* c) *Nelumbo* d) *Marsilea*
- The common plants of alpine forests are _____.
 a) *Pinus, Juniperus* b) *Salix, Avicennia*
 c) *Terminalia, Aegle* d) *Calotropis, Albizzia*
- The concentration of insecticide DDT in a pond water is 0.04pp which of the following sequence of DDT concentration would be correct?
 a) algae > fishes < human b) algae > fishes > human
 c) algae < fishes < human d) algae < fishes > human
- The theory of continental drift was propounded by _____.
 a) wegner b) Darwin c) Lamarck d) Devries
- The plants that grow in alpine regions and can withstand severe winter are termed as _____.
- The pioneers of xerosere are _____.
- The forests found along the sea beaches are known as _____.
- The chemicals that are used to control the pests are known as _____.
- The distribution of plants at distant places of the world separated by oceans is called _____.

SECTION – B
Answer ALL Questions :

(5 × 7 = 35)

11. a) Discuss about the importance of light on plants.

(OR)

- b) Analyse the interaction among plants growing in a community.

12. a) Illustrate the anatomical adaptations met within the hydrophytes.

(OR)

- b) Describe the various morphological adaptations of the xerophytes.

13. a) Give an account on the grass land vegetation in India.

(OR)

- b) Discuss about the vegetation of TamilNadu.

14. a) Explain the biomagnification with DDT as an example.

(OR)

- b) Analyze the effect of pesticides on animals.

15. a) Explain the continental drift hypothesis.

(OR)

- b) Elaborate the age and area hypothesis.

SECTION – C
Answer any THREE Questions :

(3 × 10 = 30)

- Define soil erosion and the various agencies causing soil erosion.
- Describe the various successional stages of hydrosere.
- Analyse the quadrat method of studying the vegetation in a habitat.
- Discuss about the impact of pesticides on human health.
- Give an account on endemism and its types.




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B.Sc. Botany Degree (Semester) Examinations, April 2017

Part – III : Core Subject : Sixth Semester : Paper – I

GENETICS

Under CBCS – Credit 4

 Time: **3** Hours

 Max. Marks: **75**
SECTION – A
Answer ALL Questions :
(10 × 1 = 10)

- How many characters Mendel has selected for his hybridization experiment?
a) 3 b) 5 c) 7 d) 9
- Linkage was discovered by
a) T.H.Morgan b) Darlington
c) Bateson & Punnet d) Muller
- Which one is the best example for studying plastid inheritance?
a) *Pisum sativum* b) *Mirabilis jalapa*
c) *Solanum tuberosa* d) *Nicotiana tobacco*
- The mutation occurring naturally is called
a) Spontaneous mutation b) Induced mutation
c) Point mutation d) Gene mutation
- Regulation of gene expression is well studied in the bacterium
a) *Salmonella sp* b) *Bacillus sp*
c) *Nitrosomonas sp* d) *Escherichia coli*
- Mendel performed a series of experiments with _____ plants in the garden.
- _____ discovered the ABO blood groups.
- Allosomes are other wise called as _____.
- _____ is a chromosome aberration where a segment of the chromosome is lost.
- For Human genome project, the long DNA of a chromosome is cut into small pieces of 5,000 – 10,000 nucleotides by using _____.

SECTION – B
Answer ALL Questions :
(5 × 7 = 35)

- a) Explain dominant epistasis with suitable example.
(OR)
b) What is meant by incomplete dominance? Explain with example.
- a) Discuss the mechanism of sex determination in plants.
(OR)
b) Explain the multiple alleles with reference to A, B, O blood groups.
- a) Explain how male sterility happened in maize?
(OR)
b) What is plastid inheritance? Explain with example.
- a) What is pericentric inversion and paracentric inversion?
(OR)
b) Write short note on interchromosomal translocation.
- a) Discuss the mechanism of enzyme regulation in *E.Coli*.
(OR)
b) Write the major findings of Human genome project.

SECTION – C
Answer any THREE Questions :
(3 × 10 = 30)

- Explain the complementary genes with suitable examples.
- Define crossing over. Discuss the various theories of crossing over. Write its significance.
- What is meant by sex linked inheritance? Give any two examples.
- Illustrate the deletion and addition types of chromosomal aberrations.
- Give an account on Operon concept of gene regulation in prokaryotes.





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B.Sc. Botany Degree (Semester) Examinations, April 2017

Part – III : Core Subject : Sixth Semester : Paper – II

BIOTECHNOLOGY

Under CBCS – Credit 4

Time: 3 Hours

Max. Marks: 75

SECTION – A

Answer ALL Questions :

(10 × 1 = 10)

- Which one acts as gene cloning vector?
 - Agrobacterium*
 - E.coli*
 - Plasmid
 - Pseudomonas*
- _____ is one of the richest protein sources in the world.
 - Scenedesmus*
 - Spirulina*
 - Chlorella*
 - Dunaliella*
- Bio pesticides are
 - the living organisms or their products used for the pest control
 - the chemicals which should destroy the pest
 - the organism that destroys crops
 - the enzyme that destroys crops
- The common microbe involved in cellulose degradation in biogas plant is
 - E.coli*
 - Acetobacter*
 - Methanogens*
 - Clostridium*
- Finger printing involves
 - agglutinations
 - chromatography
 - electrophoresis
 - both (b) and (c)
- The enzyme used for cutting large DNA fragments into short fragment is _____.
- The species of *Aspergillus* involve in the commercial production of _____.
- The scientist who transferred nigenes into *E.coli* cells is _____.
- The micro organism used to degrade oil is _____.
- Synthesis of monoclonal antibody is achieved by _____ technology.

SECTION – B

Answer ALL Questions :

(5 × 7 = 35)

- Write a critical notes on Restriction endo nucleases and Ligases.

(OR)

- Describe briefly about the strategies of gene cloning in bacteria.

- Discuss the techniques of immobilizing enzymes.

(OR)

- Give an account on industrial production of citric acid.

- Explain the biological treatment of sewage.

(OR)

- Enumerate the bioremediation of contaminated soil.

- Discuss the mechanism of N₂ fixation in root nodules.

(OR)

- Give a brief account on nif genes and discuss the regulation of nif genes.

- Discuss the diagnostic procedure given by ELISA test.

(OR)

- Write a brief account of different types of gene therapy.

SECTION – C

Answer any THREE Questions :

(3 × 10 = 30)

- Write an essay on the applications of genetic engineering.
- Write an essay on the industrial production of Penicillin.
- Give a brief account of bio pesticides.
- What is methanogenesis?
Draw the sketch of biogas plant and explain how it functions.
- What is DNA finger printing?
Write the method and applications of DNA finger printing technology.




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B.Sc. Botany Degree (Semester) Examinations, April 2017

Part – III : Elective Subject : Sixth Semester : Paper – I

TISSUE CULTURE

Under CBCS – Credit 5

 Time: **3** Hours

 Max. Marks: **75**
SECTION – A
Answer ALL Questions :
(10 × 1 = 10)

- Name the technique, the ability of plant cells or tissues for regenerating into whole plants
a) Totipotency b) Culture media c) Plant let d) Regeneration
- The sterilization at low temperature under high pressure in an
a) Pressure cooker b) Autoclave c) Hot air oven d) Incubator
- A small young portions of a plant material being used as a source for *in vitro* culture is called _____.
- The embryo developed from somatic cells known as
a) Hybridization b) Somatic embryo
c) Organ culture d) Anther culture
- A substance that induces the fusion of protoplast is called _____.
- The culture of immature anthers into embryos is called _____.
- _____ the culture of individual cells of a tissue in a culture medium.
- Any compound that is not required for growth and maintenance of cells
a) Primary screening b) Secondary screening
c) Primary metabolite d) Secondary metabolites
- The bacterium *Bacillus thuringiensis* produces an endotoxin is called
a) bargene b) bxe gene c) Bt toxin d) None of these
- Plants that can tolerate herbicides are called _____.

SECTION – B
Answer ALL Questions :
(5 × 7 = 35)

- a) Write about the importance of sterilization in the tissue culture method.
(OR)
b) Narrate the tools used for tissue culture laboratory.
- a) Explain about the meristem culture.
(OR)
b) List out the types and applications of artificial seeds.
- a) Write about the anther culture.
(OR)
b) Explain the uses of production of haploids in plant breeding technique.
- a) Explain the methods of suspension culture.
(OR)
b) Explain the following i) Tannins ii) Resins
- a) Give an account on herbicide resistance plants.
(OR)
b) Briefly explain transgenic plants.

SECTION – C
Answer any THREE Questions :
(3 × 10 = 30)

- Give an account media composition and media preparation in plant tissue culture technique.
- Briefly explain the somatic embryogenesis.
- Explain the method of protoplast isolation.
- Describe any two methods for the production of secondary metabolites.
- Explain the role of plant tissue culture techniques in plant improvement.





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B.Sc. Botany Degree (Semester) Examinations, April 2017

Part – III : Elective Subject : Sixth Semester : Paper – II

REMOTE SENSING AND GIS

Under CBCS – Credit 5

Time: 3 Hours

Max. Marks: 75

SECTION – A

Answer ALL Questions :

(10 × 1 = 10)

- Which of the following electromagnetic radiation is not used in remote sensing?
 - Visible IR
 - Thermal IR
 - Microwave waves
 - X – ray
- The expansion of SONAR is
 - Sound Navigation And Ranging
 - Satellite National Aerial Remote Sensing
 - Satellites Of National Aerial Remote Sensing
 - Sound National Agency of Remote sensing
- NRSA refers to _____.
 - National Remote Sensing Agency
 - National Resource Service Agency
 - National Remote Satellite Agency
 - National Resource Satellite Award
- Cartography means _____.
 - thematic maps
 - drawing cartoons
 - drawing maps
 - all the above
- GPS is used to find _____.
 - available resources
 - direction & location
 - pollution load
 - rainfall
- In RADAR _____ waves are used.
- Hot air balloons are used in _____ remote sensing.
- Elevation of earth's surface is denoted in _____ maps
- Software used in GIS is _____.
- Capturing, analyzing and displaying earth related data is said to be _____.

SECTION – B

Answer ALL Questions :

(5 × 7 = 35)

- Write a note on the signals used in remote sensing.
(OR)
- Explain the types of sensors used in remote sensing.
- Give the basis of obtaining information from remote object.
(OR)
- Briefly explain about passive remote sensing.
- Write a note on thematic map.
(OR)
- List the applications of remote sensing.
- Bring out the software components of GIS.
(OR)
- Draw the outline of working mechanism of GIS.
- Explain the role of GIS in Project Management.
(OR)
- Discuss the method to design a model using GIS.

SECTION – C

Answer any THREE Questions :

(3 × 10 = 30)

- Give an account on Satellite Remote Sensing.
- Explain the principle, mode of operation and applications of active remote sensing.
- Discuss the types and future mission of Indian Resource Satellites.
- Explain the types of data used in GIS.
- Describe the role of GIS and Remote Sensing in Environment Management.




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B.A. / B.Sc. Degree (Semester) Examinations, April 2017

Part – IV : Non-Major Elective Subject : Second Semester : Paper–I

GARDENING

Under CBCS – Credit 2

Time: 2 Hours

Max. Marks: 75

SECTION – A
Answer ALL Questions :

(10 × 1 = 10)

- Gootee is the other name of _____ Layering.
 - Simple
 - Compound
 - Trench
 - Air
- The study deals with the cultivation of fruit crops is called
 - Pomology
 - Olericulture
 - Agriculture
 - Floriculture
- IIHR is located in
 - Chennai
 - Bangalore
 - Pune
 - Mumbai
- Sphagnum* is used
 - To avoid moisture
 - To avoid sunlight
 - To avoid dark
 - None
- Lower part of the grafted plant is called as
 - Stock
 - Scion
 - Cleft
 - Whip
- Supply of nutrients to plant is called
 - Irrigation
 - Manuring
 - Propagation
 - All the above
- Biofertilizer is
 - Azolla*
 - Cow dung
 - Wood Ash
 - All the above
- Bonsai method of dwarfing in plant was introduced by
 - China
 - Japan
 - India
 - Korea
- Which grass is called as Blue grass?
 - Poa annua*
 - Stenotaphrum*
 - Both a & b
 - None
- The non living part of garden is
 - Edge plant
 - Stone bench
 - Statue
 - Both b & c

SECTION – B
Answer ALL Questions :

(4 × 10 = 40)

- What is garden? Write its advantages.
(OR)
b) Differentiate between indoor and outdoor garden?
- a) Define layering. Give its type with Diagram.
(OR)
b) Write an account on Grafting with Diagram.
- a) Explain Drip irrigation with Diagram.
(OR)
b) What is Biofertilizer? Give its examples.
- a) Write short notes on Rockery with Diagram.
(OR)
b) Write short notes on Bonsai.

SECTION – C
Answer any TWO Questions :

(2 × 12½ = 25)

- What is Cuttage? Explain its different methods.
- Explain kitchen garden with suitable Diagram.
- Describe Lawn. Write any five grass name.




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B.Sc. Botany Degree (Semester) Examinations, April 2017

Part – IV : Skill Based Subject : Fourth Semester : Paper – I

HORTICULTURE

Under CBCS – Credit 2

Time: 2 Hours

Max. Marks: 75

SECTION – A
Answer ALL Questions :

(10 × 1 = 10)

- Which is the most common plant used to propagate in leaf cutting
a) *Bryophyllum* b) Mango c) *Coleus* d) *Tectona*
- Horticulture plants are propagated by
a) Vegetative b) Asexual c) Sexual d) Both a & b
- Indian institute of Horticultural research (IIHR) is located in
a) Karnataka b) Tamil Nadu c) Kerala d) Delhi
- Our National Flower is
a) Rose b) Lotus c) Jasmine d) *Gloriosa*
- Study of Timber yielding plants
a) Pomology b) Viticulture c) Olericulture d) Arboriculture
- Which is commonly used as Rooting medium?
a) Sphagnum b) Soil c) Polythene Bag d) All
- Rhizobium* is a
a) Animals b) Biofertilizer c) Gymnosperms d) All
- Physical techniques that control shape, size and direction of plant growth is known as
a) Training b) Thinning c) Pruning d) Topiary
- The non living part of garden is
a) Edge plant b) Stone bench c) Statue d) Both b & c
- The Japanese art of growing plant is
a) Lawn b) Bonsai c) Rockery d) Trophy

SECTION – B
Answer ALL Questions :

(4 × 10 = 40)

11.a) What is garden? Write about its parts.

(OR)

b) Write any five branches of horticulture with suitable examples.

12.a) What is Graftage? Write about the procedure for approach grafting.

(OR)

b) What is cutting? Give its types with suitable illustrations.

13.a) Write short notes on i) Agriculture ii) Horticulture

(OR)

b) What is Biofertilizers? Give its examples.

14.a) What is manuring? Explain its types.

(OR)

b) Write short notes on Bonsai with suitable sketch.

SECTION – C
Answer any TWO Questions :

(2 × 12½ = 25)

15. Give a detailed account on Irrigation.

16. What is Lawn? How to make a proper Lawn and give some grasses.

17. Write an essay on Kitchen Garden.




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B.Sc. Botany Degree (Semester) Examinations, April 2017

Part – IV : Skill Based Subject : Sixth Semester : Paper – I

PLANT BREEDING

Under CBCS – Credit 2

Time: 2 Hours

Max. Marks: 75

SECTION – A
Answer ALL Questions :

(10 × 1 = 10)

- Who is the pioneer of Indian plant breeding?
 - T.S. Venkataraman
 - M.S. Swaminathan
 - K. Ramaiah
 - C.T. Patel
- Objective of plant breeding
 - Better yield
 - Better quality
 - diseases resistant
 - All the above
- Central Rice Research Institute is located at
 - New Delhi
 - Cuttack
 - Nagpur
 - Coimbatore
- Pedigree method is used to
 - Self Pollinated Crops
 - Cross Pollinated Crops
 - Both a & b
 - All
- Crosses between the plants of same species
 - Inter specific
 - Intra specific
 - Intra varietal
 - Inter varietal
- Raphanobrassica* has been evolved by intergeneric cross between
 - Radish & Cabbage
 - Wheat & Rye
 - Radish and Rye
 - Wheat and Cabbage
- Emasculated flowers are bagged to prevent
 - Microbial infection
 - Pollution
 - Attack by insects
 - Pollination

8. NBPGR is located

- Delhi
- Pune
- Kolkata
- Mumbai

9. The oldest method of plant breeding

- Introduction
- Selection
- Hybridization
- Mutation breeding

10. Polyploids are artificially produced by

- Colchicine
- Tissue culture
- Crossing over
- All of the above

SECTION – B
Answer ALL Questions :

(4 × 10 = 40)

11. a) What is Plant introduction? Write about its purposes.

(OR)

b) Write about Plant breeders of India.

12. a) What is Selection? Add its procedure.

(OR)

b) List out the names of famous plant breeding Research Institute in India.

13. a) Explain pedigree methods with suitable flow chart.

(OR)

b) Define emasculation and explain its various methods.

14. a) What is Ploidy and add its achievements in plant breeding?

(OR)

b) What are the achievements of mutation breeding?

SECTION – C
Answer any TWO Questions :

(2 × 12½ = 25)

15. Write about the procedure for plant introduction.

16. Explain Hybridization techniques with suitable diagrams.

17. Write a detailed account of heterosis. Add notes on its merits and demerits.





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Part – IV : Skill Based Subject : Sixth Semester : Paper – II

BIODIVERSITY CONSERVATION AND MANAGEMENT

Under CBCS – Credit 2

Time: 2 Hours

Max. Marks: 75

SECTION – A

Answer ALL Questions :

(10 × 1 = 10)

- Plants and animals are best protected in
 - Biosphere Reserve station
 - Botanical garden
 - Sanctuaries
 - Zoos
- What kind of value is attached to Tulsi and Lotus?
 - Aesthetic value
 - Consumptive value
 - Ethical value
 - Social value
- WCU stands for
 - Wild conservation unit
 - World conservation union
 - World communication unit
 - Wild conservation union
- Number of hot spot of biodiversity found in India.
 - 2
 - 25
 - 8
 - 1
- Which is commonly called as Biological Paradise?
 - Gulf of Manar
 - Nilgiri
 - Nanda Devi
 - Mannas
- Three quarters of the earth's surface is covered by
 - Hydrosphere
 - Biosphere
 - Lithosphere
 - Stratosphere
- The headquarters of IUCN is located
 - England
 - Holland
 - New Zealand
 - Switzerland
- World Biological Diversity day is being observed on
 - May 22
 - May 20
 - May 21
 - May 25

9. Endemic species

- Grow in a large geographic area
- Can grow in a particular soil type
- Grow in a small geographic area
- Able to survive in different environmental conditions

10. Kaziranga national park is famous for

- One horned Rhino
- Tiger
- Elephant
- Indian Lion

SECTION – B

Answer ALL Questions :

(4 × 10 = 40)

- Explain the values of Biodiversity.
(OR)
Write the name of Biosphere Reserve Station and Wild life sanctuaries in Tamil Nadu?
- What is hot spot? Write short notes on hot spot in India.
(OR)
Write about the endangered and endemic species of India?
- What are the acts to conserve biodiversity of India?
(OR)
Give an account of MAB?
- Give the Various levels of Biodiversity?
(OR)
Give an account of Red Data Book.

SECTION – C

Answer any TWO Questions :

(2 × 12½ = 25)

- Explain the conservation of biodiversity.
- Write short notes on i) IUCN and ii) WWF
- Write an essay on Causes of biodiversity.




VIVEKANANDA COLLEGE, TIRUVEDAKAM WEST

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B.Sc. Botany Degree (Semester) Examinations, April 2017

Part – IV : Skill Based Subject : Sixth Semester : Paper – III

NANOBIOLGY

Under CBCS – Credit 2

Time: 2 Hours

Max. Marks: 75

SECTION – A
Answer ALL Questions :

(10 × 1 = 10)

- The size $10^{-9} m$ measure is equal to _____.
a) Nanometer b) Centimeter c) Decimeter d) Meter
- Agriculture Nanotechnology is used in
a) Fertigation b) Water quality c) Desalination d) All
- The nanosize carbon sheet is called as
a) Graphene b) Graph c) Phene d) None
- C_{60} Carbon molecules is called
a) Bucky Ball b) Foot Ball c) Cricket Ball d) Ball
- The country which is pioneer in nano research is
a) UAE b) USA c) USI d) Japan
- Ten Hydrogen atoms together equals to
a) 1 nanometer b) 10 nanometer c) 5 nanometer d) None
- A nanotube which absorbs light is
a) Prophyrin nanotube b) Test tube
c) PVC tube d) Plastic tube
- Gold nanosheets can find and kill _____ cells.
a) Cancer b) Lung c) Kindney d) Liver

9. Greygoo is a hypothetical self replicating nanobots that consume all _____ matter on earth.

- a) Living b) Non living c) Water d) Carbon

10. Richard Teynman is a pioneer in the field of _____.

- a) Nanotechnology b) Biotechnology
-
- c) Info technology d) Industrial technology

SECTION – B
Answer ALL Questions :

(4 × 10 = 40)

- a) Define Nanotechnology & its branches. (OR)
b) Mention the various applications of Nanobiology.
- a) Explain about Nanotubes & Nanowires, Nanocrystals. (OR)
b) Write notes on Dry & Wet nanotechnology.
- a) Explain about Liposomes, C_{60} & Bio sensors. (OR)
b) Describe the Structure of DNA (or) Protein and its use in Nano medicines.
- a) Mention the uses of Nanotechnology in Cancer research. (OR)
b) Write notes on Bottom up & Top down approach.

SECTION – C
Answer any TWO Questions :

(2 × 12½ = 25)

- Write in detail about the principles and applications of Nanobiology.
- Explain about Two dimensional nanomaterials like Nanetube, Nanowires etc.
- Give an account about Top down & Bottom up approach for making nanoproducs.




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B.Sc. Zoology Degree (Semester) Examinations, April 2017

Part – III : Allied Subject : Fourth Semester : Paper – II

TAXONOMY OF ANGIOSPERMS AND PLANT PHYSIOLOGY

Under CBCS – Credit 4

 Time: **3 Hours**

 Max. Marks: **75**
SECTION – A
Answer ALL Questions :
(10 × 1 = 10)

- The system of classification proposed by Bentham and Hooker is
 - Artificial
 - Natural
 - Phylogenetic
 - Numerical
- Bentham and Hooker differentiate series in Monochlamydeae numbering
 - Five
 - Seven
 - Eight
 - Ten
- The hooded, aggregate fruit produced by the following family
 - Annonaceae
 - Asclepidaceae
 - Lamiaceae
 - Poaceae
- The plants of *Parkinsonia* produce
 - Phylloclades
 - Phyllodes
 - Cladodes
 - Bulbils
- Diffusion of water through selectively permeable membrane is called _____.
- Absorption of water and minerals in submerged hydrophytes take place through _____.
- Light energy is converted into chemical energy in the presence of _____.
- In which part dark reactions occur in the chloroplast
 - Grana lamella
 - Stroma
 - Stroma lamellae
 - Thylakoids
- Auxins are _____.
- Effect of day length on plant development is called _____.

SECTION – B
Answer ALL Questions :
(5 × 7 = 35)

- State merits and demerits of natural system.

(OR)

 Give an account on natural system.
- Describe the floral characters of Annonaceae.

(OR)

 Discuss the inflorescence characters of Euphorbiaceae.
- Give an account on Water potential concept.

(OR)

 Discuss the mechanism of absorption water by plant tissues.
- Explain the structure of chloroplast.

(OR)

 Give an account on cyclic light reaction.
- Discuss about the physiological action of auxins.

(OR)

 Write short notes on photoperiodism.

SECTION – C
Answer any THREE Questions :
(3 × 10 = 30)

- Outline the Bentham and Hooker's system of classification.
- Describe the characters of Poaceae. Add note on its economic importance.
- Briefly explain the types of transpiration.
- Discuss the Calvin cycle.
- Enumerate the physiological role of gibberellins.

