BOTANY

M.Sc. II (Industrial botany)

Question bank

QUESTIONS FOR 4 MARKS

1) What is the difference between business and profession ?

2) Give the distribution of economically important algae in India.

3) Explain the method of *spirulina* mass cultivation.

4) What are the characteristics of entrepreneur?

5) What is fermentation technology?add a note on batch fermentation?

6) Define project & how to prepare project report?

7) What are the applications of SCP?

8) Give the commercial utility of algae as food & biofertilizer.

9) Explain the commercial utility of algae as a food & feed.

10) How biodiesel is prepared from algae and give its advantages?

11) Explain the method of preparation of liquid seaweed fertilizers

12) What is the role of rotenone and pyrethrins as a herbal biopesticide?

13) Describe Nuclear Polyhydrosis Virus (NPV) and give its role.

14) Explain the environmental implications of fossil fuel.

15) Describe distillation to dehydration process .

16) Write a note on fuel cells.

17) Explain the oil extraction and oil refining process.

18) What are the basic functions of fermenters?

19) Explain upstream and down stream processes in fermentation technology.

20) Explain the production of mycoproteins.

21) What are the objectives and need of EDPs?

22) Describe the interrelationship between industry ,commerce and trade.

QUESTIONS FOR 6 MARKS

1) Explain the HNPV virus .
2) Write down the application and future prospects of bio- hydrogen.
3) Explain basic functions of fermenters.
4) What are the functions of NABARD.
5) Write down the scope of business.
6) Explain the production method of cephalosporins.
7) Give the different sources of oil seed crops.

QUESTIONS FOR 8 MARKS

1) Explain the formation of bio-ethanol from sugar and cellulose.

2) What are the properties and uses of lipid biofuel.

3) Define biopesticide and Add a note on bacterial biopesticide(*Bacillus thuringinesis).*

4) Explain the concept of fungal biopesticide.

5) Explain the formation of bio-ethanol from starch and lignocelluloses.

6) What is difference between SI engine and CI engines?

7) Explain Fed- batch fermentation and continuous fermentation process .

8) What is the Difference between entrepreneur and a Manager.

9) Give the sources and methods of production of citric acid.

10) Define management and add a note on its characteristic.

11) What is biopesticide? Describe its types and applications?

12) Explain sources and methods of production of alcohol & vinegar.

13) Define biofuel and describe in brief the alternatives of fossil fuel.

14) Give the production of button mushroom and Dhingri mushroom.

15) Explain the concept of herbal biopesticide.

16) Define entrepreneur concept and give its types.

17) What is resource potential of algae and give commercial utility of algae.

18) Define accounting and explain its need and objectives.

19) What is EDPS? Give its need,objectives cources content and curriculum phases and evaluation of EDPS ?

20) Define antibiotics? How many sources of penicillin and give method of peniciline production?

21) Explain the sources and method of cephalosporins and griseofulvins production .

22) Give the production of yeast biomass and traditional fungal foods.

23) Define project and add a note on contents of project report.

24) What is management and add a note on management process.

25) Describe human resource management and marketing management.

26) Define accounting and add a note on profits and loss accounts.

27) What are the needs and objectives of accounting?

28) Explain the sources and method of wine preparation.

29) Define fermentation and how to scale up of fermentation is done.

30) Describe the production of paddy straw mushroom and button mushroom.

QUESTIONS FOR 10 MARKS

1) Describe the process of *Trichoderma* isolation with multiplication procedure and write its applications.
2) Explain the concept of biofuel and describe different alternatives for fossil fuel.
3) Describe different types of fermenters with design and functions.
4) Describe the objectives of Entrepreneurship Development Programmes with its different phases.
5) Write down the characteristics of management and explain how it differs from administration.
6) Define bio-ethanol and describe the formation of bio-ethanol from cellulose and lignocelluloses.

M. Sc. – I (sem –II) Examination,2022

BOTANY

HCT 2.1: Biology and Diversity of Gymnosperms and Paleobotany

Q2. Answer the following . 8+8=16

1) Describe compression..

2)Describe Rhynia,

3) Describe Lepidodendron

4) Draw male cone of Araucaria

5.Describe male cone of Ephedra

6.Describe male cone of Ginkgo

7.Describe femal;e cone of Taxus

8.Describe male cone of Gnetum

9. Explain Lyginopteris

10. Describe female cone of Ephedra

11.Explain Enigmacarpon

12.Enlist types of fossils.

13.Describe maceration method

14.Types of fossils

15.Salient features of Cordaitales

16.Rhynia major.

17.Explain Lepidocarpon.

18.Describe Ptilophyllum

19.Economic importance of Cycadales .

20.Palmoxylon

Q3. Answer the following .

A) 8+8=16

1) Explain Indian fossil flora .

2) Discuss salient feature and affinities of Ephedrales

3)Discuss salient feature and affinities of Cycadales

4)Discuss salient feature and affinities of Taxales

5)Discuss salient feature and affinities of Ginkgoales

B)

1) Describe Impression

2) Explain of pteridospermales

3) Describe Mold & Cast

4) Describe Petrification

5) Describe Coal Ball

Q4. Answer the following .

A) 8+8=16

1) Discuss Salient feature and affinities of Ginkgoales

2) Write briefly about the Palaeobotanical techniques for Petrification

3) Explain manoxylic stem and pycnoxylic stem

4) Describe stem of Cycas

5) morphology features of Welwitschia

B)

1) Describe Medullosa

2) Explain of Fossilization

3) Discuss Sahanianthus Flower

4) Affinities with pteridospermal

5) explain of male cone Ephedra

Q5. Answer the following . 8+8=16

A)

1) Give economic importance of Gymnosperms

2) Give important features of Psilophytales

3) write a note on L.S of Cycas ovule

4) Enlist characteristic feature of Cordaitales

5) Enlist characteristic feature of Coniferales

B)

1) Describe Lower Gondwana Flora

2) Explain Male flower of williamsonia

3) Morphology of Rhynia

4) Describes stigmaria Root

5) salient features of Taxales

Q6. Answer the following . 8+8=16

A)

1) Salient features of Pteridospermales

2) Describe male cone of Zamia with suitable diagram.

3)Describe diversity of Gymnosperm with respect to reproduction .

4) Describe modern trends in classification of Gymnosperms.

5) Diversity of gymnosperms with respect to Anatomy

B)

1) Applied Aspect of Cycadaceae

2) what is Mycorrhizal roots

3) Economic importance of Coniferales

4) Explain Glossopteris flora

5) Give an account on phylogeny of Coniferales

Q7. Answer the following .

A) 8+8=16

1) Salient features of Cycadales.

2) Describe diversity of Gymnosperm with respect to morphology.

3) Describe diversity of Gymnosperm with respect to Anatomy.

4) Give important features of Filicales

5) Give important features of Bennettitales

B)

1) General characters of Gymnosperms

2) Describe of Pycnoxylic Wood

3) Describe Annularia

4) Describe podocarpus

5) Explain Cupressus

Question Bank

M. Sc. I (SEM-II) Examination June-2022

Paper SCT 2.3 Cell & Molecular Biology

Q. 2. Answer the Following. (20) **(4x4=16)**

1. Write a note on Ultra structure of Chloroplast with neat labeled diagram.

2. Explain models of Plasma membrane.

3. Write a note on biogenesis of mitochondria.

4. Role of cyclins & CDKs in cell cycle regulation.

5. Satellite DNA

6. Structure of Plasmodesmata.

7. Write a note on Carriers & Channels.

8. Define Cell cycle & Apoptosis.

9. Retinoblastoma & E_2F proteins.

10. Genome organization in mitochondria.

11. What is genetic code & give any 4 properties of genetic code.

12. Write a note on ATPase.

13. FISH

14. Models of DNA replication.

15. Structure of Microtubules.

16. Cytokinesis & cell plate formation

17. GISH

18. Draw neat lebelled diagram of Mitochondria.

19. Functions of Endoplasmic reticulum.

20. Write a note on P53 protein.

Q. 3. A. Answer the Following. (5) **(8x8= 16)**

1. Explain structure and chemical composition of plasma membrane.

2. Describe role of Plasmodesmata in movement of macromolecules.

3. Write a note on ultra structure & genome organization of mitochondria.

4. Write in brief Functions of plasma membrane.

5. Describe models of DNA replication.

B. Answer the Following. (5)

1. Write in brief structure & functions of Golgi bodies.

2. Explain confocal microscopy.

3. Describe in brief DNA repair mechanism.

4. Write a note on cell cycle regulation.

5. Explain enzyme regulation.

Q. 4. A. Answer the Following. (5) **(8x8= 16)**

1. Describe structure & functions of Endoplasmic reticulum.

2. Explain functions of microtubules and microfilaments.

3. Write a note on contribution of Nirenberg & Khorana in genetic code.

4. What is satellite DNA? Explain minisatellite & microsatellite DNA.

5. Write a note on Tonoplast membrane.

B. Answer the Following. (5)

1. Describe the structure of microfilaments.

2. Define genetic code & explain its properties in detail.

3. Write in brief structure, chemical composition & functions of plasma membrane.

4. Describe ultra structure & functions of chloroplast.

5. What is cell cycle? Explain its regulation.

Q. 5. A. Answer the Following. (5) **(8x8= 16)**

1. What is DNA? Give different models of DNA replication.

2. Explain Cyclins & Cyclins dependent kinase in cell cycle control.

3. Write a note on FISH & GISH

4. Describe Functions of ER & Golgi complex.

5. Write a note on Selfish DNA & Promiscus DNA.

B. Answer the Following. (5)

1. Describe in detail Structure & role of Microfilaments.

2. Describe in detail genome organization of mitochondria & chloroplast.

3. Describe in brief Carriers, Transporters, Ion Channels & ATPases.

4. Write a note on mechanism of programmed cell death.

5. Write a note on RNA editing.

Q. 6. A. Answer the Following. (5) **(8x8= 16)**

1. Write in brief Cytokinesis & cell plate formation.

2. Describe DNA damage & repair mechanism.

3. Describe models & functions of plasma membrane.

4. What is DNA replication & explain process of replication.

5. Describe structure & role of microtubules.

B. Answer the Following. (5)

1. What is cyclins? Explain their role in cell cycle control.

2. Write a note on P53 protein & gene caspases.

3. Describe enzyme kinetics.

4. Write in brief Wobble hypothesis.

5. Write a note on nucleosome organization.

Q. 7. A. Answer the Following. (5) **(8x8= 16)**

1. Explain in brief DNA damage.

2. What is Apoptosis? Explain its control mechanism.

3. Explain principle, working & uses of confocal microscopy.

4. Write a note on chemical composition of plasma membrane.

5. Write a note on plant vacuole.

B. Answer the Following. (5)

1. What are Plasmodesmata? Explain its structure and role.

2. Write in brief gap junctions.

3. Write a note on Pumps & ion channels.

4. Explain in detail gene expression in chloroplast.

5. Describe enzyme kinetics & its regulations.

Question Bank For M.Sc. II

Paper : HCT 4.2 Modern Trends in Angiosperm Taxonomy

Questions for 4 marks.

1. Write a note on AFLP.

2. Explain the vegetative anatomical characters which are of taxonomic importance.

3. Write a short note on QR coding.

4. Explain in brief biological significance of chemotaxonomy.

5. What is endemism? Describe the types of endemism.

6. Explain the various embryological characters which are used to solving taxonomic problems at different levels.

7. Explain SEM.

8. What are the Alien plants? Enlist the any four name of Alien plants.

9. Write a note on GPS.

10. Give the examples of various plant data bases.

11. Describe in brief systematic position of family Hydatellaceae.

12. Write a note on wood anatomy.

13. Define serology and give one application of serological data in systematics.

14. Explain exine stratification.

15. Write a note on lead gardens.

16. Define cladistics.

17. Describe in brief vicariance biogeography.

18. Describe in brief the principle of protein electrophoresis.

19. Enlist the centres of diversity in India.

20. Write a note on assessment of biodiversity.

Questions for 10 Marks.

1. Explain the anatomy of vegetative parts with respect to anatomical data in solving taxonomic problems at different level.

2. What is molecular systematics? Describe various diagnostic tools used in studies of molecular systematics?

3. Give the various classes of chemical compounds and their taxonomic significance with any one example.

4. What is red data book? Explain in brief the categories included in it with example.

5. What is ultrastructure systematics? Give the role and significance of SEM and TEM in plant systematics.

6. Write a note on sustainable development and give the various biodiversity awareness programmes.

Questions for 6 marks.

1. What is PBR? Add a note on sustainable development of biodiversity.

2. Give the short methodology of PCR and RAPD and enlist their specific applications.

3. Explain TEM and add a note on sieve element plastids.

4. Write a note on analysis of amino acid sequence and it's significance in systematics.

5. Explain in brief 'The Plant List' website and mention it's role in taxonomic studies.

6. What is GIS? Give the any four applications of GIS.

7. What is Cladogram? Explain in brief how to prepare cladogram?

8. Explain the various pollen characters which have taxonomic importance.

9. Write a note on origin of chemotaxonomy.

Questions for 8 marks.

1. What is numerical taxonomy? Describe the steps involved in numerical taxonomy.

2. Write a note on various biodiversity awareness programmes involved in conservation of biodiversity.

3. Explain in brief cytotaxonomy.

4. Write a note on molecular data and systematic position of Hydatellaceae.

5. What is phenotypic plasticity? Explain it with to giving the suitable example.

6. Write a note on palynotaxonomy with the utilization of palynological data in solving taxonomic problems.

7. Describe the bar coding.

8. What is disjunction and vicariance. Explain it with suitable example.

9. Explain serology and give the application of serological data in systematics.

10. Explain in brief the anatomical characters of floral parts which have taxonomic importance.

11. What is GPS? Write the application of GPS.

12. Write a note on ecological differentiation.

13. What is cladistics? Explain the principle of parsimony. And write the definition of analogy and homology.

14. Write a note on RFLP and AFLP give it's specific applications in molecular systematics.

15. Explain the chromosome number and chromosome morphology.

Question Bank

M.SC II SEM IV 2021-22

Paper Name: Phytogeography & Conservation Biology

Q.2. Answer the following M-16

1. Phytogeographical regions of India according to Prain & Burkill
2. Phytogeographical regios according to Chattargi
3. Describe types of phytogeographical regions of India
4. Describe national parks
5. Describe sanctuaries
6. Describe gene banking
7. Describe community seed banking
8. Advantages of Insitu conservation
9. Advantages of Ex situ conservation
10. Describe categories of plants according to IUCN
11. Describe age & area hypothesis
12. Botanical garden
13. NBPGR
14. Any 4 rules of Biodiversity conservation act 2002
15. Write any 4 rules of Wildlife conservation act
16. Write mandates of NBPGR
17. Write rules of Wasigton Biodiversity act
18. Write any 4 rules of conservation for wildlife conservation act
19. Define hot spots
20. Define relic endemism

Q.3. Answer the following **M- 16**

1. Describe in detail in situ conservation

2. Western Ghat vegetation

3. Describe phytogeoraphical regions of India

4. Describe botanical garden with its applications

5. What are the applications of Insitu conservation

6. Describe flora of Indus plain

7. Describe wildlife conservation act

8. Describe rules & mandates of NBPGR

9. Describe endemism in detail

10. Describe concept of continental drift & age & area hypothesis

Q.4. Answer the following **M- 16**

1. Flora of eastern Himalaya

2. Gene banking

3. Describe Process of cryopreservation

4. Describe Community gene bank

5. Catgories of plant according to IUCN

6. Flora of western Himalaya

7. Flora of Dehli

8. Define afforest ration & describe in what way it is used for conservation of plants

9. Describe Phytogeoraphy and its types

10. Give the difference of Continuous & discontinuous phytogeography

Q. 5. Answer the following **M- 16**

1. Write a note on endemism
2. Flora of Sundarban
3. Vegetation of Alpine region of western Himalaya
4. Hot spots in Maharashtra
5. Describe any three types of endemism
6. Describe any two methods of Insitu conservation
7. Write a note on importance of Biodiversity
8. Write a note on loss of biodiversity
9. Write a note on importance of conservation
10. Write the difference between insitu & exsitu conservation

Q.6. Answer the following **M- 16**

1. Flora of western Himalaya
2. Mangrove vegetation of India
3. Florestic diversity of Malbar region
4. Write a note on method of conservation
5. Write a note on wildlife conservation act
6. Write a note on Biodiversity act
7. Write a note on Biotechnological method of conservation
8. Write a note on Phytogeography & continental drift
9. Write a note on polyhouse
10. Write a note on biosphere reserve

Q.7. Answer the following **M- 16**

1. Biotechnological method of conservation

2. What are hotspots & describe the RET plants

3. Write a note on scared grooves & National parks

4. Write a note on International biodiversity year 2010

5. Write a note on Cryopreservation & biotechnology

6. Write a note on temperate vegetation of Eastern Himalaya

7. Write a note on Importance of Biodiversity & how to conserve it

8. Phytogeoraphical regions according to Chattargi

9. Describe types of phytogeography and add a note how phytogeography leads to variation in species

10. Write a note on vegetation of Gagnetic plains

P. A. H. S. U. Solapur

M.Sc. (Part - II) (Semester - IV) Examination, 2022

BOTANY (Paper – HCT4.2)

Plant Tissue Culture and Green House Technology and Hydroponics

Q. 2) Solve the following (20) **(4X4=16)**

1. Applications of Genetically modified plants
2. Methods of sterilization
3. Role of enzyme ligase
4. Enlist methods of hydroponics
5. Enlist physical methods of sterilization
6. What is micropropagation
7. Enlist types of media used in tissue culture
8. What is somatic hybridization
9. Give applications of Plant Biotechnology
10. Enlist the enzymes required in protoplast isolation
11. Enlist chemicals use for sterilization in tissue culture
12. Enlist factors affecting Anther culture
13. Define hardening
14. What is Hydroponics
15. Enlist crops suitable for Hydroponics
16. Watering in greenhouse
17. Describe Hydroponics media

18.Cell line and bioreactor

19.Pest control in greenhouse

20.Application of hydroponics.

Q. 3 Answer the following (05) 8+8 =16

A)

1. Write a note on somatic hybridization
2. Write a note on Micropropagation
3. Write a note on factors affecting anther culture
4. Describe in detail steps involved in Anther culture
5. Describe in detail process of tissue culture.

Q. 3 Answer the following

B)

1. Describe somatic hybridization
2. Write a note on steps involved for production of golden rice
3. Write a note on enzymatic method of protoplast isolation
4. Factors influencing morphogenesis.
5. Advantages of anther culture

Q. 4 Answer the following (05) 8+8 =16

A)

1. Construction of greenhouse
2. Advantages and Disadvantages of anther culture

3.dESCRIBE Embryo culture

4.Write a note on role of biotechnology in agriculture

5. Write a note on applications of tissue culture

Q. 4 Answer the following (05)

B)

1.Describe roles of enzymes involved in tissue culture

2.Write the steps involved in formation of flavor saver tomato with its application

3.Write process of micropropagation with its application

4.Fumigation and heating in greenhouse

5. Describe the physical & chemical methods used for sterilization in plant tissue culture

Q. 5 Answer the following (05) **8+8 =16**

A)

1.Describe the steps for micropropagation its types and add a note on its application

2.Write a note n anther culture & add a note on factors affecting Anther culture

3.Describe factors affecting protoplast isolation

4.Describe in detail protoplast isolation

5.Describe in brief tissue culture laboratory

Q. 5 Answer the following (05)

B)

1.Describe the process of making Flavour saver tomato with its application

2. Elicitors used in secondary metabolite production.

3. Advantages and disadvantages of Hydroponics.

4. Haploid plants

5. Encapsulations of synthetic seeds

Q. 6 Answer the following (05) **8+8 =16**

A)

1. Fertilizers in greenhouses

2.Factors affecting anther culture

3.Describe in detail somatic embryogenesis and its applications

4.Types of greenhouse

Q. 6 Answer the following (05)

B)

1.Applications of synthetic seeds

2.Write an essay on embryo culture and embryo rescue.

3.What is clonal propagation ? Describe different steps involved in clonal

4. propagation using shoot tip culture

5.What is Hydroponics ? Describe any three types of it.

Q. 7 Answer the following (05) 8+8 =16

A)

1. Advantages and disadvantages of Anther cuture.

2.Embryo rescue.

3. Haploid plants

4. Significance of greenhouse.

5. Factors influencing morphogenesis.

Q. 7 Answer the following (05)

B)

1. Describe concept of cellular totipotency

2.Give an account of cell suspension culture with its significance

3.Different growth media used in hydroponics

4.Fumigation in plant tissue culture room

5.Give an account of different culture media ingredients and their significance.

Punyashlok Ahilyadevi Holkar Solapur University, Solapur

M.Sc. (Part –I) (Semester –II) Examination, 2022

Botany (Paper- OET2.1)

Advances in Plant Pathology

Q.2. Solve the Following (20) **(4x4=16)**

1. Father of plant pathology?
2. Defination of plant disease?
3. What is epidemic disease?
4. What is sporadic disease?
5. Define prepanetration?
6. Draw the structure of intracellular mycelium with haustoria?
7. What is penetration?
8. Importances of plant disease?
9. What is MLO?
10. What are commen plant diseases?
11. What is fungal disease?
12. Define post penetration?
13. Define characteristics of MLO?
14. What is epidemology?
15. Define bacterial disease?
16. What is phytoplama disease?
17. Enlist control measure of plant disease?
18. Casual organisams of rust of jawar?
19. Symptoms of TMV?
20. Control measure of BMV?

Q.3 Answer the following (05) **(8+8 =16)**

A)

1. Discribe in detail phanarogamic dieases of *cuscuta reflexa* ?

2. Write note on mechanisam of infection?

3. Write note on plant disease and disorders?

4. Discibe in detail identification tecniques of MLOs?

5. Write note on concept and classification plant disease?

B)

1. Discribe importance of plant disease?

2. Write note on little leaf of brinjal?

3. Discrbe grain smut of jawar?

4. Write note on downy mildew of bajra?

5. Write note on factors affecting plant disease?

Q.4 Answer the following (05) **(8+8=16)**

A)

1. Write note on bacterial disease of *citrus canker* ?

2. Discribe defence mechanisms of plant pathogen?

3. Discribe in detail of epidemology?

4. Importance of plant pathology in agriculture?

5. Discribe fungal disease of tikka disease of groundnut?

B)

1. Discribe priciples of plant disease control?

2. Discribe in detail of *loranthus*?

3. Write note on head smut of jawar?

4. Discribe in detail of onion smut?

5. Write note on seed borne pathogen?

Q.5 Answer the following (05) **(8+8=16)**

A)

1. Discibe in detail types of plant disease?

2. Explain in detail immunization?

3. Give brief note on root knot of vegitable?

4. Explain assessment of disease incidance and crop loss?

5. Discribe in detail damping of *tobacco?*

B)

1. Distinguish the following pairs of terms parasite and pathogen?

2. Discribe and draw the structure of *striga densifolia?*

3. Write note on grassy shoot diseases of sugarcane ?

4. Draw and discribe the structure whip smut of sugarcane?

5. Explain in detail the rust of wheat?

Q.6 Answer the following (05) **(8+8=16)**

A)

1. Write note on any two fungal diseases?

2. Discribe in detail viral deseases of TMV?

3. Discribe in detail biopesticide?

4. Write note on total root parasite of *orobranche?*

5. What is symptoms? Discribe in detail symptoms?

B)

1. Discribe in detail fungicide?

2. What is BMV? Explain in detail?

3. Distinguish between MLO and TMV?

4. Write essay on any two phanerogamic diseases?

5. Explain in detail nematode?

Q.7 Answer the following (05) **(8+8=16)**

A)

1. Significance of plant disease?

2. Effect of plant diseases on crop production?

3. Discribe climate change and its impact on plant diaseases?

4. Expalin disease cylcle of plant diseases?

5. Disease treatment of diseased plant?

B)

1. Discribe crop rotation?

2. Explain ypes diseases management?

3. Diseases control by plant sanitation?

4. Discribe disease forecasting?

5. Write essay on plant diseases?

Question Bank

M.SC I SEM II 2021-22

Paper Name: Tools & Techniques in Botany

Q.2. Answer the following **M-16**

1. Write a note on eectrophoresis
2. Write a note on photomicrograph
3. Write a note on applications of SEM
4. Write a note on working of gel electrophoresis
5. Describe methods used for viewualization of DNA
6. Write a note on principle of Isoelectric foacing
7. Wrie a note on applications of spectrophotometry
8. Wrie a note on TEM
9. Write process of herbarium preparation
10. Wrie a note on herbarium centres in India
11. Wrte a note on principle of dosimetry
12. Write a note on fixatives
13. Write a note on permanent preparation
14. Write a note on application of HPLC
15. Write a note on working of gas chromatography
16. Write a note radioisotops
17. Write a note on applications of flame spectrophotometry
18. Write working of ESR Spectroscopy
19. Describe methodology of herbarium preparation
20. Write a note on phase contrast microscopy

Q.3. Answer the following **M- 16**

1. Describe in detail banding o banding
2. Write principle , working & applications of ultracentrifuge
3. Write principle , working & applications of gel electrophoresis
4. Write principle , working & applications of Atomic absorption spectroscopy
5. Write principle , working & applications of ion exchange chromatography
6. Write a note on principle & types of chromatography
7. Write a note on NCBI
8. Write a note on Affinity chromatography
9. Write a note on advantages of herbaria
10. Write a note on immune florescence microscopy

Q.4. Answer the following **M- 16**

1. Write principle , working & applications of NMR
2. Write a note on half life of radioisotops
3. Write a note on cytophotometry
4. Write a note on principle & working of transmission electron microscopy
5. Write note on coefficient of variation
6. Write a note on BLAST
7. Write a note on FLAST
8. Write principle , working & applications of HPLC
9. Write applications of centrifugation
10. Write working &applications of gas chromatography

Q. 5. Answer the following **M- 16**

1. Write a note on effect of radiation on biological system
2. Write a note on significance of herbarium
3. Describe probability
4. Write a note on bionomial distribution
5. Write a note on applications of biostatistics
6. Write advantages & disadvantages of flame spectroscopy
7. Write a note on canning electron microscopy
8. Write a note on microscopy & its types
9. Write a note on radioactivity counting system
10. Describe biological system database

Q.6. Answer the following **M- 16**

1. Describe role of bioinformatics
2. Write a note on NCBI &its applications
3. Write a note on density gradient centrifugation
4. Write working & applications of ultracentifuge
5. Write a note on chromatography
6. Write a principle, working &applications of flame spectroscopy
7. Write a note on UV visible spectroscopy
8. Write a note on fixatives & stains
9. Write a note on NCBI & protein database
10. Write a note on working & applications of ion exchange chromatography

Q.7. Answer the following **M- 16**

1. Write principle , working & applications of florescence spectroscopy
2. Write principle , working & applications of scanning electron microscopy
3. Write principle , working & applications Gas chromatography
4. Write principle , working & applications ESR Spectroscopy
5. Write principle , working & applications of gel electrophoresis
6. Write a note on Standard units of expression
7. Write a note on ph & buffers with its applications
8. What is herbarium &write a note on steps involved
9. What is AAS & add a note on its application
10. Write a note on affinity chromatography

Question Bank

M.SC II SEM IV 2021-22

Paper Name: Crop Physiology

Q.2. Answer the following **M-16**

1. Write a note on crop growth

2. Write a note on growth curve

3. Write a note on Weed sides

4. Write a note on Phloem transport

5. Describe source & sink relationship

6. Write a note on types of weedisides

7.Wrie a note on in what way herbicides affect the main plant

8. Wrie a note on Physiological yield of sugercane

9. Write mandates of ICRISAT

10. Wrie a note on fruit Physiological yield of ber

11. Wrte a note on nitrogen fixation in chick pea

12. Write a note on Post harvest technology for mango

13. Write a note on mode of action of herbicides

14. Write a note on photoperiodism

15. Write a note on vernalization

16. Write a note Auxins

17. Write a note on nutrition of groundnut

18. Write mandates of CIMAP

19. Describe fruit physiology of mango

20. Write a note on types of fertilizers

Q.3. Answer the following **M- 16**

1. Describe in detail crop growth index

2. Write a note on post harvest technology for fruits

3. Write a note on post harvest technology for fruits

4. Write a note on post harvest technology for vegetables

5. Write a note on ICRISAT

6. Write a note on IARIT

7. Write a note on CAZRI

8. Write a note on cryopreservation

9. Write a note on Physiological basis of yield of sugercane

10. Write a note on Physiological basis of yield of cotton

Q.4. Answer the following **M- 16**

1. Describe nitrogen fixation in chickpea

2. Write a note on storage process for fruits

3. Write a note on storage process for vegetables

4. Write a note on methods for long term storage of fruits

5. Write role & mandates of BARC

6. Write a note on phloem transport

7. Write a note on GA

8. Write a note & applications of cytokinine

9.Physiological role of Auxin

10. Describe mode of action of herbisides

Q. 5. Answer the following **M- 16**

1. Write a note on Physiological yield of Jowar
2. Write a note on factors affecting source & sink relationship
3. Describe source & sink relationship with suitable diagram
4. Write a note on organic farming
5. Write a note on importance of organic farming
6. Write advantages & disadvantages of chemical & organic farming
7. Write a note on any two growth regulators used in agriculture
8. Write a note on physiological yield of wheat
9. Write a note on Fruit physiology of lemon
10. Define vernalization? Describe the process of vernalization

Q.6. Answer the following **M- 16**

1. Define Photoperiodism ? Describe the process of photoperiodism
2. Write post harvest technology for pomogranate
3. Write a note on BARC
4. Write a note on mineral nutrition in groundnut
5. Write a note on physiological basis of yield of groundnut
6. Write a note on soil salinity research lab Karnal
7. Write a note on macro nutrients required for plant growth
8. Write a note on Micronutrients required for plant growth
9. Write a note on antitransperents
10. Write a note on mode of action of weedicides

Q.7. Answer the following **M- 16**

1. Write a note on physiological parameters for growth of plant

2.Describe growth curve in detail & add a note on physiological parameters for plant growth

3. Define growth regulators & add a note on GA

4. Write a note on Factors affecting source & sink relationship

5. Write a note on harvesting of fruits

6. Write a note on fruits physiology of grape

7. Write a note on UAS Bangalore

8. Write a note on CAZRI Bangalore

9. Write a note on fertilizers

10. Write a note on post harvest technology for grapes

Question Bank

M. Sc. II (SEM-IV) Examination June-2022

Paper SCT 4.1 Environmental Plant Physiology

Q. 2. Answer the Following. (20) **(4x4=16)**

1. What is Stress? Explain its types.

2. Define Biological Strain & explain its types with suitable examples.

3. Define given terms- Avoidance, Tolerance, Resistance & Adaptation.

4. What is Water stress? Mention effects of water stress on plant metabolism.

5. Write a note on Reclamation of Saline soil.

6. Explain types of salinity.

7. Write a note on causes of water logging.

8. Describe effects of heavy metals on plants.

9. Define Chilling injury & Freezing injury.

10. Write a note on effect of high temperature on plant metabolism.

11. Write a note on cold tolerance.

12. Describe effect of ultraviolet radiations on plants.

13. Write a note on Photoinhibition.

14. Explain effect of SO_2 & NO_2 on plant metabolism.

15. Describe Antioxidant system in plants.

16. Explain biosynthesis of Jasmonic acid.

17. Describe in short hypersensitive response.

18. Write a note on Effect of elevated CO_2 conc. on plant metabolism.

19. What is Oxidative stress? Explain in short.

20. Write a note on Causes of Soil salinization.

Q. 3. A. Answer the Following. (5) **(8x8= 16)**

1. Define Stress & Biological Strain & explain its types with suitable examples.

2. Describe the drought resistance mechanism in plants.

3. Describe the Salt injury.

4. Explain mechanism of salt tolerance in plants.

5. Describe mechanism of Free radical scavenging in plants.

B. Answer the Following. (5)

1. Write in detail mechanism of flooding tolerance in plants.

2. Describe Oxidative stress.

3. Explain Mechanism of UV tolerance.

4. Describe the mechanism of Heavy metal tolerance in plants.

5. Explain Water logging injury in plants.

Q. 4. A. Answer the Following. (5) **(8x8= 16)**

1. Describe in detail Role of Proline & other osmolytes during stress.

2. Describe in detail SAR mechanism during biotic stress.

3. Write a note on Increased CO_2 conc. on plant metabolism & productivity.

4. Explain in detail effect of high temperature on plant metabolism.

5. Describe in brief types of salinity & its causes.

B. Answer the Following. (5)

1. Write in brief chilling tolerance mechanism in plants.

2. Describe the effects of heavy metals on plants.

3. Explain in detail Photoinhibition.

4. Describe in brief Role of Jasmonic acid & its biosynthesis.

5. How plants overcome the oxidative stress.

Q. 5. A. Answer the Following. (5) **(8x8= 16)**

1. Explain in detail Osmolytes & their role during stress.

2. What is Pollution stress? Explain its causes on plant metabolism.

3. Describe biotic stress.

4. Mention effects of low temperature on plant metabolism.

5. Describe about Free radical effects on plants.

B. Answer the Following. (5)

1. Explain in detail Heat shock proteins.

2. Describe resistance mechanism against freezing injury.

3. Write a note on Phytoremidation.

4. Write a note on salicylic acid role during biotic stress.

5. Describe effect of Ozone on plant metabolism.

Q. 6. A. Answer the Following. (5) **(8x8= 16)**

1. Explain effect of water stress & salt stress on plant growth & development.

2. Write in brief Water logging.

3. Describe the drought resistance mechanism in xerophytes against drought.

4. Write a note on plant-plant interactions.

5. Write in detail effect & tolerance mechanism of UV radiations on plant metabolism.

B. Answer the Following. (5)

1**.** Describe in detail reclamation of saline soil.

2. Effect of Iron, Zinc& Manganese on plant metabolism.

3. Explain HR & SAR mechanism in plants.

4. Describe Salt injury & Salt tolerance.

5. Write a note on Antioxidant system in plants during oxidative stress.

Q. 7. A. Answer the Following. (5) **(8x8= 16)**

1. Describe in detail drought resistance mechanism in mesophytes.

2. Write in brief mechanism of flooding tolerance in plants.

3. Describe in brief role of compatible solutes during stress conditions.

4. Write a note on Enzymatic & Non- enzymatic antioxidants.

5. Explain effect of fungal infection on plant metabolism.

B. Answer the Following. (5)

1. Write a note on Antifreeze proteins & Heat shock proteins.

2. Describe in detail free radicals & their scavenging.

3. Mention Physiological responses of plants against water stress.

4. Describe in brief heat stress.

5. Write a note on effect of NO_2 & ozone on plant metabolism.