M.Sc Botany Oct 2016

केसरी - 005

Seat Number

* 3 5 4 3 *

BOT-2.1
Diversity of Lower Cryptogams
(141201)

P. Pages : 2

Time : Three Hours **Max. Marks : 80**

Instructions to Candidates :

1. Do not write anything on question paper except Seat No.
2. Graph or diagram should be drawn with the black ink pen being used for writing paper or black HB pencil.
3. Students should note, no supplement will be provided.
4. Answer **any four** questions taking **two** question from each section.
5. Answer to the two section should be written in separate answerbook.
6. All questions carry equal marks.
7. Draw labelled diagrams wherever necessary.

SECTION - I

1. Describe the life cycle Pattern with suitable examples in Phaeophyceae. **20**

2. a) Describe ultrastructure of Heterocysts in Blue Green Algae. **10**

b) Asexual reproduction in Rhodophyceae. **10**

3. Describe the thallus organization in chlorophyceae. **20**

4. Write short note on **any four.** **20**

a) Give the suffix used for different categories of Algae.

b) Give general character of algae.

c) Give general characters of Xanthophyceae.

d) Comment on algae as human welfare.

e) Comment on Reproduction in Blue green algae.

f) Comment on Siphonochilus thallus organization in algae.

SECTION - II

5. Write distinguishing characters, thallus structure, Nutrient and Hyphal modification in Fungi. **20**

6. a) Economic and ecological importance of Lichens. **10**

   b) Comment on life cycle pattern in Teliomycetes. **10**

7. Give the distinguish characters thallus structure types and asci and ascocarps in Ascomycotina. **20**

8. Write short notes on **any four.** **20**

   a) Comment on types of Basidia.

   b) Fungi in Biotechnology.

   c) Comment on types of plasmodia.

   d) Give asexual reproduction in zygomycotina.

   e) Comment on reproductive bodies in myxomycota.

   f) Give the types of conidia.

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केसरी - 006

Seat Number

* 3 5 4 4 *

BOT-1.1
Angiosperm Taxonomy
(141101)

P. Pages : 2

Time : Three Hours **Max. Marks : 80**

Instructions to Candidates :

1. Do not write anything on question paper except Seat No.
2. Graph or diagram should be drawn with the black ink pen being used for writing paper or black HB pencil.
3. Students should note, no supplement will be provided.
4. Answer **any four** questions taking not more than two questions from each section.
5. All questions carry equal marks.
6. Neat diagram must be drawn wherever necessary.

SECTION - I

1.	Discuss range of floral variation, Phylogeny and evolutionary trends of Ranunculaceae and Rutaceae.	**20**
2.	Give salient features and points of biological importance of Droseraceae and Nepenthaceae.	**20**
3.	Review the development of the systematics during post-Darwinian period.	**20**
4.	Write notes on **any four** of the following.	**20**

a) Evolutionary status of Angiosperm.

b) Review of various codes.

c) Leaf structure.

d) Rejection of names.

e) Scientific names.

f) Primitive carpel.

SECTION - II

5. Give salient features and points of biological importance of Aristolochiaceae and cuscutaceae. **20**

6. Comment on range of floral variation, phylogeny and evolutionary trends of cactaceae and scitamineae. **20**

7. Discuss the role of Genetics and cytogenetics in Taxonomy. **20**

8. Write notes on **any four** of the following. **20**

   a) Type method.

   b) Phyllode theory.

   c) Names of cultivated and hybrid plants.

   d) Role of phytochemistry in Taxonomy.

   e) Salient features of Orchidaceae.

   f) Evolution of floral nectaries.

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2

केसरी - 017

Seat Number

* 3 5 5 5 *

BOT-2.2
Diversity of Higher Cryptogams
(141202)

P. Pages : 1

Time : Three Hours **Max. Marks : 80**

Instructions to Candidates :

1. Do not write anything on question paper except Seat No.
2. Graph or diagram should be drawn with the black ink pen being used for writing paper or black HB pencil.
3. Students should note, no supplement will be provided.
4. Answer **any four** questions taking two questions from each Section.
5. Answer to the two Sections should be written in separate answer book.
6. All questions carry equal marks.
7. Draw labelled diagram wherever necessary.

SECTION – I

1. Trace the evolution in sporophytes of Bryophytes. **20**

2. " Anthocerotales occupy a unique position among Bryophyta" Discuss. **20**

3. Give distinguishing features and phylogenetic importance of Takakia. **20**

4. Write short notes on **any four.** **20**

a) Calobryum
b) Capsule of Sphagnum.
c) Economic importance of Bryophytes.
d) Contribution of Kashyap.
e) Amphigastria.
f) Gemma cup.

SECTION – II

5. Describe the Salient features of the order Lycopodiales. **20**

6. Write an essay on Soral evolution in pteridophytes. **20**

7. a) Outline Reimer's classification of the pteridophytes. **10**

b) Give distinguishing features of Ophioglossales. **10**

8. Write short notes on **any four.** **20**

a) Sporophyll of Isoetes
b) Tassel of Osmunda.
c) Heterospory.
d) Xerophytic characters of Equisetum.
e) Distribution of Pteridophytes in India.
f) Synangium of Psilotum.

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केसरी - 035

Seat Number

3573

BOT-2.3
Plant Physiology and Biochemistry
(141203)

P. Pages : 1

Time : Three Hours **Max. Marks : 80**

Instructions to Candidates :

1. Do not write anything on question paper except Seat No.
2. Graph or diagram should be drawn with the black ink pen being used for writing paper or black HB pencil.
3. Students should note, no supplement will be provided.
4. Answer **any four** questions, taking at least two questions from each section.
5. Use separate answer book for each section.
6. All questions carry equal marks.

SECTION – I

1. What are hormones? Give the physiological effect of hormones. **20**

2. Describe light reaction of photosynthesis. **20**

3. Explain the glycolysis. **20**

4. Write short notes on **any four.** **20**

a) Lactic acid fermentation
b) Cytokinins.
c) Biological clock
d) Formation of starch
e) Biological importance of redox system
f) Chloroplast.

SECTION – II

5. What is mean by hydrogen ion concentration? Give an illustrate account of pH scale. **20**

6. What is stress? Describe the temperature stress. **20**

7. Define translocation. Explain the mechanism of translocation of organic solute. **20**

8. Write short notes on **any four.** **20**

a) RQ.
b) G-Protein coupled receptor
c) Circadian Rhythms
d) Effect of O_2 and CO_2 on photosynthesis
e) Terpenoids
f) Importance of plant physiology.

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केसरी - 042

Seat Number

* 3 5 7 6 *

BOT-2.1
Diversity of Lower Cryptogams
(141211)

P. Pages : 2

Time : Three Hours **Max. Marks : 60**

Instructions to Candidates :

1. Do not write anything on question paper except Seat No.
2. Graph or diagram should be drawn with the black ink pen being used for writing paper or black HB pencil.
3. Students should note, no supplement will be provided.
4. All questions carry equal marks.
5. Answer **any four** questions **any two** from each section.
6. Answer in tow sections write in separate answer books.

SECTION - I

1. Give the general characters & describe the range of thallus structure in Phaeophyceae with suitable examples. **15**

2. Describe the life cycle pattern in Chlorophyceae with suitable example. **15**

OR

Give the characters of Rhodophyceae. Describe the reproduction & life cycle pattern in floridae. **15**

3. Write notes on **any three.** **15**

i) Outline of classification of Algae by Fritsch.

ii) General characters of Bacillariophyta.

iii) Prokaryotic & Eukaryotic cell.

iv) Heterocyst.

v) Role of Algae as food.

vi) Thallus organisation in cyanophyta.

केसरी - 043

Seat Number

* 3 5 7 7 *

BOT-1.1
Angiosperm Taxonomy
(141111)

P. Pages : 1

Time : Three Hours **Max. Marks : 60**

Instructions to Candidates :

1. Do not write anything on question paper except Seat No.
2. Graph or diagram should be drawn with the black ink pen being used for writing paper or black HB pencil.
3. Students should note, no supplement will be provided.
4. All questions carry equal marks.
5. Answer **any four** questions, any two from each section.
6. Answer to the **two** sections write in separate answer books.

SECTION – I

1. Describe recent systems of classification of flowering plant as studied by you. **15**

2. Discuss role of reproductive biology in taxonomy with suitable data. **15**

OR

Discuss following families with reference to features and points of biological interest **15**

a) Orobanchaceae b) Rafflesiaceae

3. Write short notes on **any three.** **15**

i) New Names.
ii) Primitive stamens.
iii) Author citations.
iv) Phyllode theory.
v) Conservation of names.

SECTION – II

4. Discuss systems of classifications in post-Darwinian period. **15**

5. Describe following families with reference to range of floral variations, taxonomy and evolutionary trends of **15**

a) Gramineae b) compositae

OR

Describe Role of Genetics and cytogenetics in taxonomy with suitable examples. **15**

6. Write short notes on **any three.** **15**

i) Scientific and Common names.
ii) Type method.
iii) Evolution of gynoecium.
iv) Retention of names.
v) Primitive carpel.

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केसरी - 046

Seat Number

* 3 5 8 0 *

BOT-1.2
Environmental Botany and Biostatistics
(141112)

P. Pages : 1

Time : Three Hours **Max. Marks : 60**

Instructions to Candidates :

1. Do not write anything on question paper except Seat No.
2. Graph or diagram should be drawn with the black ink pen being used for writing paper or black HB pencil.
3. Students should note, no supplement will be provided.
4. Answers to the two sections should be written in separate answer book.
5. Answer **any four** questions taking at least two questions from each section.
6. All questions carry equal marks.
7. Draw labelled diagrams wherever necessary.
8. Use of simple calculator is allowed.

SECTION – I

1. What is ecosystem? Describe types & components of ecosystem. Explain terrestrial ecosystem. **15**

2. What is EIA? Explain the concept, scope & procedure of EIA. **15**

OR

Explain the procedure of solid waste management. Comment on types of wastes. **15**

3. Write notes on **any three.** **15**

a) Watershed management.
b) Concept of biomass assessment.
c) Remote sensing.
d) Probability.
e) Sampling method.

SECTION – II

4. Find mean, mode median, standard deviation & range of coefficient of variance from follow in data, a weight of potatoes in grams what is EIA? Explain the concept, scope & procedure of EIA. **15**

5. What is central tendency? Calculate mean, mode median, mean deviation, standard deviation & coefficient of variance for following data weight of 20 tomatoes in grams. **15**

54, 55, 52, 50, 54, 16, 58, 49, 48, 56
51, 58, 56, 60, 59, 54 53 48, 55, 54

OR

Discuss in detail forest type mapping & forest density mapping. **15**

6. Write note on **any three.** **15**

a) Forest conservation.
b) Environment protection Act 1985.
c) Kyoto protocol.
d) Types & sources of solid waste.
e) Scope & Importance of Environmental Botany.

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केसरी - 051

Seat Number

* 3 5 8 5 *

BOT-2.3 :
Plant Physiology and Biochemistry
(141213)

P. Pages : 1

Time : Three Hours **Max. Marks : 60**

Instructions to Candidates :

1. Do not write anything on question paper except Seat No.
2. Graph or diagram should be drawn with the black ink pen being used for writing paper or black HB pencil.
3. Students should note, no supplement will be provided.
4. Answer **any four** questions taking at least two questions from each section.
5. Answer to the two section should be written in separate answer book.
6. All questions carry equal marks.

SECTION - I

1. What is photosynthesis? Give details on light reaction. **15**

2. What is Bioassay? Describe possible bioassay for auxin, Gibberellin and cytokinin's. **15**

3. Discuss various theories of translocation of organic solutes. **15**

4. Write short notes on following **any three.** **15**

a) Fermentation. b) Phloem loading.
c) Water stress. d) Flavonoids.
e) pH and Buffer.

SECTION - II

5. Describe different components of Electron Transport chain and their role in respiration. **15**

6. What are amino acids? Give an account on classification and properties of amino acids. **15**

7. Explain secondary plant metabolites briefly. **15**

8. Write short notes on following **any three.** **15**

a) Carotenoids. b) Temperature stress.
c) Factors affecting rate of respiration. d) Proteins
e) Scope and Importance of Biochemistry.

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केसरी - 052

Seat Number

* 3 5 8 6 *

BOT-1.3 :
Cytogenetics, Plant Breeding and Molecular Biology
(141113)

P. Pages : 1

Time : Three Hours **Max. Marks : 60**

Instructions to Candidates :

1. Do not write anything on question paper except Seat No.
2. Graph or diagram should be drawn with the black ink pen being used for writing paper or black HB pencil.
3. Students should note, no supplement will be provided.
4. Answer **any four** questions taking at least **two** questions from each section.
5. Answer to the Two section should be written in separate answer book.
6. All questions carry equal marks.
7. Draw neat labelled diagrams wherever necessary.

SECTION - I

1. Give an account of molecular organisation of chromosome. Describe nucleosome model concept in detail. **15**

2. Describe scope importance and objectives of plant breeding. **15**

OR

Define gene mutation. Explain the molecular basis or mechanism of point mutation.

3. Write short notes on following **any three.** **15**

a) Types of linkage.
b) C-value paradox.
c) Merits of pedigree method of plant breeding.
d) Protein sorting.
e) Physical properties of nucleic acid.

SECTION - II

4. Discuss positive and negative control of lac-operon. **15**

5. Describe bulk method of plant breeding. Explain method, merits and demerits of it. **15**

OR

Describe with examples the cytoplasmic inheritance. Controlled by organelles like plastids and mitochondria. in plants.

6. Write short notes on following **any three.** **15**

a) Polytene chromosome.
b) Euploidy.
c) Inbreeding
d) Gene battery.
e) DNA polymerase.

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