This question paper contains 2 printed pages

W—75—2015

FACULTY OF SCIENCE

B.Sc. (Second Year) (Third Semester) EXAMINATION

OCTOBER/NOVEMBER, 2015

(CBCS/CGPA Pattern)

BOTANY

Paper VI

(Morphology and Taxonomy of Angiosperms)

(MCQ & Theory)

(Wednesday, 17-11-2015) Time : 2.00 p.m. to 4.00 p.m.

Time—2 Hours Maximum Marks—40

N.B. :— (i) All questions are compulsory.

(ii) All questions carry equal marks.

(iii) Choose appropriate answer from MCQ.

(iv) Draw neat and well labelled diagram wherever necessary.

MCQ

1. Multiple Choice Questions :

(i) When more than two leaves arise at each node, the phyllotaxy is :

(a) Opposite decussate (b) Opposite superposed

(c) Alternate (d) Whorled

(ii) Pedicle is the stalk is :

(a) Flower (b) Leaf

(c) Ovule (d) Inflorescence

(iii) Ovules attached to the margin of the ovary :

(a) Parietal placentation (b) Marginal placentation

(c) Axile placentation (d) Basal placentation

P.T.O.

[illegible]

(iv) Systematic Botany is also known as :

(a) Anatomy (b) Embryology

(c) Histology (d) Taxonomy

(v) In Binomial nomenclature system the first name is

(a) Species (b) Family

(c) Genus (d) Order

(vi) Diadelphous stamens are present in :

(a) Fabaceae (b) Malvaceae

(c) Amaranthaceae (d) Brassicaceae

(vii) Umbel inflorescence is the characteristic feature of

(a) Apiaceae (b) Brassicaceae

(c) Amaranthaceae (d) Caesalpiniaceae

(viii) The type of fruit in Brassicaceae is :

(a) Etario of Berries (b) Silique

(c) Drupe (d) Legume

(ix) Botanical name of wheat is :

(a) *Triticum aestivum* (b) *Sorghum Vulgare*

(c) *Ocimum sanctum* (d) *Zea mays*

(x) The family Asteraceae is also known as :

(a) Graminae (b) Umbelliferae

(c) Labiatae (d) Compositae

Theory

2 Describe the salient features of Engler and Prantl's system of classification of Angiosperms and add a note on its merits and demerits.

Or

Write short notes on :

(a) Structure of typical flower (Hibiscus)

(b) Objectives of Angiosperm taxonomy.

3. Describe general characters of family Malvaceae. Give its floral formula and floral diagram.

Or

Write short notes on :

(*a*) Hypogynous and epigynous flower

(*b*) Economic importance of Apiaceae.

4. Describe general characters of family Solanaceae. Give its floral formula and floral diagram.

Or

Write short notes on :

(*a*) Types of simple fruits

(*b*) Economic importance of Poaceae.

This question paper contains 3 printed pages]

W—91—2018

FACULTY OF SCIENCE

B.Sc. (Second Year) (Third Semester) EXAMINATION

OCTOBER/NOVEMBER, 2018

(CBCS/CGPA Course)

BOTANY

Paper-VII

(Histology, Anatomy and Embryology of Angiosperms)

(MCQ+Theory)

(Saturday, 20-10-2018) Time : 2.00 p.m. to 4.00 p.m.

Time—Two Hours *Maximum Marks—40*

N.B. :— (*i*) Attempt *All* questions.

(*ii*) *All* questions carry equal marks.

(*iii*) Draw neat and well labelled diagrams wherever necessary.

MCQ 10

1. Multiple Choice Questions :

(*i*) Lateral meristem is ..... .

(*a*) Cambium (*b*) Root hair

(*c*) Root apex (*d*) Shoot apex

(*ii*) Histogen theory is proposed by ..... .

(*a*) Nageli (*b*) Hanstein

(*c*) Schmidt (*d*) Schuepp

(*iii*) Apical meristem is ..... .

(*a*) Root apex (*b*) Root hair

(*c*) Cambium (*d*) None of these

P.T.O.

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(iv) Roots are developed from ..... .

(a) Radicle (b) Plumule

(c) Seedling (d) Coleoptile

(v) Vascular bundles in dicot stem are ..... .

(a) Conjoint (b) Collateral

(c) Open (d) All of these

(vi) The pollen grains with cricular germ pores are called ..... .

(a) Porate (b) Colpate

(c) Colporate (d) None of these

(vii) The main body of ovule is ..... .

(a) Nucellus (b) Chalaza

(c) Micropyle (d) Funicle

(viii) The 8-nucleate monosporic embryo sac is present in ..... .

(a) Polygonum (b) Allium

(c) Adoxa (d) Oenothera

(ix) The ovule in which spore mother cell is hypodermal in position is called ..... .

(a) Crassinucellate (b) Tenninucellate

(c) Archesporium (d) Parietal

(x) PEN is acronym of ..... .

(a) Primitive endosperm nucleus

(b) Primary endosperm nucleus

(c) Secondary endosperm nucleus

(d) Tertiary endosperm nucleus

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Theory

2. Define meristem. Describe classification of meristem. 10

Or

Write short notes on :

(a) Vascular bundles in monocot stem

(b) Laticiferous tissue

3. Describe internal structure of dicot leaf. 10

Or

Write short notes on :

(a) T.S. of anther

(b) L.S. of typical ovule.

4. What is endosperm ? Describe nuclear endosperm. 10

Or

Write short notes on :

(a) Structure of pollen grain

(b) Significance of double fertilization

This question paper contains 1 printed page]

X—39—2019

FACULTY OF SCIENCE AND TECHNOLOGY

B.Sc. (Second Year) (Third Semester) (Regular) EXAMINATION

OCTOBER/NOVEMBER, 2019

(CBCS Pattern)

BOTANY

Paper VI

(Morphology and Taxonomy of Angiosperms)

(Friday, 18-10-2019) **Time : 2.00 p.m. to 4.00 p.m.**

Time—2 Hours *Maximum Marks—40*

N.B. :— (*i*) Attempt *All* questions.

(*ii*) *All* questions carry equal marks.

(*iii*) Draw well labelled diagrams wherever necessary.

1. Describe in detail general characters of Family-Asteraceae with floral formula, floral diagram and economic importance. 15

Or

Describe in brief :

(*a*) Types of inflorescence 8

(*b*) Types of leaf. 7

2. Describe in detail salient features of Bentham and Hooker's system of classification with merits and demerits. 15

Or

Describe in brief :

(*a*) Binomial nomenclature 8

(*b*) Vegetative morphology and economic importance of Annonaceae 7

3. Attempt any *two* of the *four* : 10

(1) Structure of typical flower

(2) Types of classification

(3) Distinguishing characters of Brassicaceae

(4) Economic importance of Liliaceae.

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(16)

This question paper contains 3 printed pages]

B—107—2019

FACULTY OF SCIENCE AND TECHNOLOGY

B.Sc. (Second Year) (Third Semester) EXAMINATION

MARCH/APRIL 2019

(CBCS/CGPA Pattern)

BOTANY

Paper VII

(Histology, Anatomy and Embryology of Angiosperms)

(MCQ & Theory)

(Saturday, 30-3-2019) **Time : 2.00 p.m. to 4.00 p.m.**

Time—2 *Hours* *Maximum Marks*—40

N.B. :— (*i*) Attempt *All* questions.

(*ii*) *All* questions carry equal marks.

(*iii*) Choose the *correct* answer for MCQ.

(*iv*) Draw well-labelled diagram wherever necessary.

MCQ

1. Multiple Choice Questions 10

(*i*) Apical cell theory was proposed by ..... .

(*a*) Nageli in 1958 (*b*) Schmidt in 1924

(*c*) Hanstein in 1868 (*d*) None of these

(*ii*) ..... provides strength to the organs and prevents the bending or pulling due to wind.

(*a*) Parenchyma (*b*) Sclerenchyma

(*c*) Collenchyma (*d*) None of these

P.T.O.

(iii) When protoxylem lies towards outside and metaxylem lies towards the inside is called ..... .

(a) Mesarch (b) Endarch

(c) Exarch (d) None of these

(iv) Endodermis is present in ..... .

(a) Monocot (b) Dicot

(c) Gymnosperms (d) None of these

(v) Phloem is present on both sides of xylem in a vascular bundle is called .....

(a) Collateral (b) Bicollateral

(c) Concentric (d) None of these

(vi) Exine of the pollen grain is made up of ..... .

(a) Sporopollenin (b) Callose

(c) Cellulose (d) None of these

(vii) Fertilization where male gametes in pollen tube enters ovule through integuments is .....

(a) Porogamy (b) Syngamy

(c) Mesogamy (d) Chalazogamy

(viii) The insects are agent of pollination in ..... .

(a) Anemophily (b) Ornithophily

(c) Entomophily (d) Hydrophily

(ix) Egg apparatus consists of ..... .

(a) Synergids and egg cells (b) Synergids and polar nuclei

(c) Central cells and egg cells (d) Antipodal cells and egg cells

(x) In plants, where two megaspore cells are functional and take part in the development of embyro sac is called ..... type.

(a) Monosporic (b) Tetrasporic

(c) Trisporic (d) Bisporic

Theory

2. Describe different types of complex tissues. 10

Or

Write notes on :

(a) Parenchyma

(b) Secondary growth in sunflower stem.

3. Describe internal structure of maize root. 10

Or

Write notes on :

(a) Structure of pollen grain

(b) Pollination

4. Describe polygonum type embryo development. 10

Or

Write notes on :

(a) Cellular Endosperm

(b) Anatropous Ovule.

This question paper contains 1 printed page]

X—40—2019

FACULTY OF SCIENCE AND TECHNOLOGY

B.Sc. (Second Year) (Third Semester) (Regular) EXAMINATION

OCTOBER/NOVEMBER, 2019

(CBCS Pattern)

BOTANY

Paper VII

(Histology, Anatomy and Embryology of Angiosperm)

(Friday, 18-10-2019) Time : 2.00 p.m. to 4.00 p.m.

Time—2 Hours *Maximum Marks—40*

N.B. :— (*i*) Attempt *All* questions.

(*ii*) Illustrate your answers with suitably labelled diagrams whereve necessary.

1. Describe various theories of organization of root and shoot apices. 15

Or

(*a*) Describe internal structure of maize root. 8

(*b*) Describe normal secondary growth in sunflower root and stem. 7

2. Describe in detail microsporogenesis. 15

Or

(*a*) Polygonum (monosporic) type of embryo development 8

(*b*) Nuclear endosperm. 7

3. Attempt any *two* of the following :

(*a*) Laticiferous tissue

(*b*) Types of vascular bundles

(*c*) Structure of pollen grain

(*d*) Double fertilization.

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This question paper contains 3 printed pages]

Y—90—2019

FACULTY OF SCIENCE

B.Sc. (Second Year) (Third Semester) (Backlog) EXAMINATION

OCTOBER/NOVEMBER, 2019

BOTANY

Paper VI

(Morphology and Taxonomy of Angiosperms)

(MCQ & Theory)

(Monday, 18-11-2019) **Time : 2.00 p.m. to 4.00 p.m.**

Time—2 *Hours* *Maximum Marks*—40

N.B. :— (*i*) *All* questions are compulsory.

(*ii*) *All* questions carry equal marks.

(*iii*) Choose appropriate answer from MCQ.

(*iv*) Draw neat and well labelled diagrams, wherever necessary.

MCQ

1. Answer the following questions : 10

(*i*) The plant organ which is positively geotrophic and descending is.....

(*a*) Stem (*b*) Leaf

(*c*) Root (*d*) Flower

(*ii*) In Epigynous flower ovary is

(*a*) Inferior (*b*) Superior

(*c*) Semi-inferior (*d*) Semi-superior

(*iii*) Carpel is made up of.....

(*a*) Ovary (*b*) Style

(*c*) Stigma (*d*) All of these

P.T.O.

(iv) Father of Taxonomy.....

(a) Charles Darwin (b) Gregor Mendel

(c) Carlos Linnaeus (d) J.C. Bose

(v) Artificial system of classification is proposed by.....

(a) Bentham & Hooker (b) Linnaeus

(c) Engler & Prandtl (d) Hutchinson

(vi) Brassicaceae was previously known as.....

(a) Annonaceae (b) Cruciferae

(c) Papilionaceae (d) Umbelliferae

(vii) The type of fruit in Annona.....

(a) Hesperidium (b) Legume

(c) Drupe (d) Etario of Berry

(viii) Cotton belongs to family.....

(a) Malvaceae (b) Meliaceae

(c) Annonaceae (d) Caesalpinaceae

(ix) The type of inflorescence in Asteraceae :

(a) Cyathium (b) Verticellaster

(c) Head or Capitulum (d) Hypanthodium

(x) Datura belongs to.....

(a) Asteraceae (b) Solanaceae

(c) Poaceae (d) Liliaceae

Theory

2. Describe salient features of Bentham and Hooker's system of classification. Add a note on its merits and demerits. 10

Or

Write short notes on :

(*a*) Types of roots

(*b*) Artificial system of classification.

3. Describe the general characters of the family Annonaceae. Give its floral formula and floral diagram. 10

Or

Explain in brief :

(*a*) Types of placentation

(*b*) Economic importance of Fabaceae.

4. Describe the general characters of the family Solanaceae. Give its floral formula and floral diagram. 10

Or

Write in brief :

(*a*) Pinnately compound leaf

(*b*) Economic importance of Poaceae.

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This question paper contains 3 printed pages]

Y—107—2019

FACULTY OF SCIENCE AND TECHNOLOGY

B.Sc. (Second Year) (Third Semester) (Backlog) EXAMINATION

NOVEMBER/DECEMBER, 2019

BOTANY

Paper VII

(Histology, Anatomy and Embryology of Angiosperm)

(MCQ & Theory)

(Thursday, 19-12-2019) Time : 2.00 p.m. to 4.00 p.m.

Time—2 Hours *Maximum Marks—40*

N.B. :— (i) Attempt *all* questions.

(ii) Choose the *correct* answer for MCQ.

(iii) Draw well labelled diagrams wherever necessary.

(iv) *All* questions carry equal marks.

MCQ

1. Answer the following Multiple Choice Questions : 10

(i) Histogen theory was proposed by_____

(a) Hanstein in 1868 (b) Wolff's in 1759

(c) Schmidt in 1924 (d) None of these

(ii) _____is thick walled cells with lignin and lack nucleus and cytoplasm.

(a) Parenchyma (b) Collenchyma

(c) Sclerenchyma (d) None of these

(iii) When xylem or phloem completely surround xylem or phloem in a vascular bundle is_____

(a) Collateral (b) Bicollateral

(c) Concentric (d) None of these

P.T.O.

(iii) Intrafasicular cambium is absent in.....

(a) Dicot (b) Monocot

(c) Gymnosperm (d) None of these

(iv) Radially or polygonal cells present between two vascular bundles is called.....

(a) phellogen (b) conjunctive tissue

(c) epidermis (d) none of these

(v) The point at which funicle is attached to the body of ovule :

(a) Hilum (b) Raphe

(c) Endothecium (d) Chalaza

(vii) Fertilization where male gametes in pollen tube enter ovule through chalaza is.....

(a) porogamy (b) syngamy

(c) chalazogamy (d) mesogamy

(viii) The water is agent of pollination in.....

(a) Ornithophily (b) Entomophily

(c) Anemophily (d) Hydrophily

(ix) Endosperm is formed by the fusion of.....

(a) Two polar nuclei and a male gametes

(b) Egg cell and a male gametes

(c) Antipodals and male gametes

(d) None of the above

(x) In plants, where four megaspore cells are functional and take part in the development of embryo sac is called .....type

(a) Monosporic (b) Bisporic

(c) Trisporic (d) Tetrasporic

Theory

2. What is meristem ? Describe the classification of meristem. 10

Or

Write notes on :

(*a*) Xylem

(*b*) Internal structure of monocot leaf.

3. Describe internal structure of sunflower root. 10

Or

Write notes on :

(*a*) Structure of typical ovule

(*b*) Cross pollination.

4. Describe Allium type embryo development. 10

Or

Write notes on :

(*a*) Helobial endosperm

(*b*) Internal structure of anther.

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FACULTY OF SCIENCE

B.Sc.F.Y.(SEM-III) EXAMINATION WINTER-2020

Subject: Botany

Paper Title & No: Bryophytes, Pteridophytes, Gymnosperms & Palaeobotany -II

Cluster code : 50

Date : 09/04/2021 Time : 01 Hour Maximum Marks : 45

N.B. :- (i) Attempt All questions.

(ii) All questions carry equal marks.

(iii) Use OMR answer sheet.

Q.1. The life cycle of Bryophytes complete into ------ phases.

A) Four B) Two

C) Six D) Three

Q.2. -------- is a leafy gametophyte

A) Funaria B) Riccia

C) Marchantia D) Anthoceros

Q.3. ------ consists of foot, seta & capsule—

A) Gametophyte B) Sporophyte

C) Zygote D) None of these

Q.4. Bryophytes are classified by .....

A) N.S.Parihar B) E.F.Fritsch

C) Birbal Sahni D) Louis Pasteur

Q.5. Spores are produced in —

A) Foot B) Seta

C) Capsule D) None of these

Q.6. Funaria belongs to----

A) Bryopsida B) Anthocerotopsida

C) Hepaticopsida D) None of these

Q.7. The Antheridia, paraphysis & pengonal leaves together form—

A) Ascogonium B) Antheridium

C) Archegonium D) Perigonium

Q.8. ------ is differentiated into neck & venter.

A) Antheridium B) Archegonium

C) Sporophyte D) None of these

Q.9. In Bryophytes fertilization takes place in the presence of---

A) Dew B) Insects

C) Water D) Wind

Q.10. Which of the following belongs to class Hepaticopsida—

A) Marchantia B) Funaria

C) Anthoceros D) None of these

Q.11. In Marsilea megasporangium produces------ megaspores.

A) One B) Two

C) Three D) Four

Q.12. In Lycopodium sex organs are present on the ---region of the gametophytes.

A) Conical B) Generative

C) Cortical D) Central

Q.13. In Pteridophytes------ are cone like structures present at the apex of mature branches.

A) Strobili B) Tubers

C) Sex organs D) All of these

Q.14. In Lycopodium stem the stele is-----

A) Protostele B) Actinostele

C) Plectostele D) All of these

Q.15. Quadrifoliate leaves are present in—

A) Lycopodium B) Equisetum

C) Selaginella D) Marsilea

Q.16. Marsilea is an example of---

A) Bryophyte B) Pteridophyte

C) Gymnosperm D) Angiosperm

Q.17. Megaspores are ——— than microspores.

A) Smaller B) Larger

C) Both A & B D) None of these

Q.18. Following is known as first land plants

A) Algae B) Bryophytes

C) Pteridophytes D) Gymnosperms

Q.19. In Marsilea sporangia are developed in——

A) Strobilus B) Sporocarp

C) Cone D) All of these

Q.20. In Pteridophytes,——— are the vegetative reproductive bodies.

A) Tubers B) Sex organs

C) Spores D) None of these

Q.21. The Gymnosperms lack fruits because they lack.....

A) Ovule B) Ovary

C) Embryo D) Seed

Q.22. Male gametophyte in gymnosperms is represented by.....

A) Microsporangium B) Nucellus

C) Microspore D) Spore dyad

Q.23. What is the similarity between gymnosperms & angiosperms.....

A) Double fertilization B) Polyembryony

C) Naked ovules D) None of these

Q.24. Gymnosperms are characterized by.....

A) Multiflagellate sperms B) Naked seeds

C) Winged seeds D) Seeds inside fruits

Q.25. In Cycas pollination is done by.....

A) Insects B) Birds

C) Bats D) Wind

Q.26. The vascular bundles of Cycas stem are —

A) Conjoint, collateral & closed B) Conjoint , collateral & open

C) Conjoint, Bicollateral & open D) Conjoint , Bicollateral & closed

Q.27. The endosperm of Cycas is—

A) Haploid
B) Diploid
C) Triploid
D) Polyploid

Q.28. Pinus is —
A) Monoecious
B) Dioecious
C) Both A & B
D) None of these

Q.29. The winged pollen grain is the characteristic feature of —
A) Cycas
B) Ephedra
C) Gnetum
D) Pinus

Q.30. The male gametes of pinus are—
A) Biflagellate
B) Multiflagellate
C) Non-flagellate
D) Uniflagellate

Q.31. Which of the following is a living fossil—
A) Pinus
B) Gnetum
C) Ginkgo
D) Cycas

Q.32. Jurassic period is about.....
A) 265 million years back
B) 165 million years back
C) 65 million years back
D) 365 million years back

Q.33. The pollen-bearing organs of Lyginopteris belong to—
A) Cycadeoidea
B) Crosstheca
C) Calymmaatotheca
D) Williamsonia

Q.34. Birbal Sahni is popularly known as .....
A) Mycologist
B) Paleobotanist
C) Physiologist
D) Phycologist

Q.35. The Geological time scale is a record of what-
A) Old geologists
B) Sweet geology music
C) The known history of rocks & fossils.
D) A list of everything ever.

Q.36. Angiosperm originated during—
A) Upper cretaceous
B) Lower Jurassic
C) Mid cretaceous
D) Carboniferous

Q.37. The present epoch in the Earth's age is known as—
A) Holocene
B) Miocene
C) Pleistocene
D) Pliocene

Q.38.During which geological period did the earth become oxygen rich....

A) Orosirian Period B) Ediacaran Period

C) Deronian Period D) Ordovician Period

Q.39. Study of fossils is called as.....

A) Psychiatry B) Paleontology

C) Pomology D) Phycology

Q.40. Which of the following is an example of trace fossil---

A) Leaf B) Skeleton

C) Trilobite D) Foot print

This question paper contains 3 printed pages]

R—77—2017

FACULTY OF SCIENCE

B.Sc. (Second Year) (Fourth Semester) EXAMINATION

MARCH/APRIL, 2017

BOTANY

Paper IX

(Ecology and Environmental Biology)

(MCQ+Theory)

(Monday, 3-4-2017) **Time : 2.00 p.m. to 4.00 p.m.**

Time—2 Hours *Maximum Marks—40*

N.B. :— (*i*) Attempt *All* questions.

(*ii*) *All* questions carry equal marks.

(*iii*) Choose the correct answer for MCQ.

(MCQs)

1. Multiple Choice Questions : 10

(*i*) Group of non-living or physical factors are termed as .....

(*a*) Abiotic (*b*) Biotic

(*c*) Both (*a*) and (*b*) (*d*) None of these

(*ii*) The process of formation of mature soil is known as .....

(*a*) Kinesis (*b*) Pedogensis

(*c*) Symbiosis (*d*) None of these

(*iii*) The plants that are adapted to drought are termed as .....

(*a*) Halophytes (*b*) Xerophytes

(*c*) Hydrophytes (*d*) None of these

(*iv*) Pneumatophores are found in .....

(*a*) Hydrophytes (*b*) Xerophytes

(*c*) Halophyte (*d*) Bryophytes

P.T.O.

(v) All the living components in an ecosystem are called ..... community.

(a) Biotic (b) Abiotic

(c) Both (a) and (b) (d) None of these

(vi) The plants bearing rhizome, bulb, stem tubers etc. are included in .....

(a) Phanerophyte (b) Xerophyte

(c) Hydrophyte (d) Cryptophytes

(vii) The pyramid of energy is .....

(a) Inverted (b) Upright

(c) Inclined (d) All of these

(viii) The life supporting gas in air is .....

(a) N_2 (b) O_2

(c) CO_2 (d) He

(ix) Soil erosion can be prevented by .....

(a) Deforestation (b) Afforestation

(c) Grazing (d) None of these

(x) Silicosis is caused by air pollution by :

(a) Lime (b) Silica

(c) Carbon-monoxide (d) Lead

(Theory)

2. Describe temperature and light as climatic factors.

Or

Write notes on :

(a) Soil profile

(b) Anatomical adaptations in hydrophytes.

3. Describe morphological and anatomical adaptations in xerophytes.

Or

Write notes on :

(*a*) Density

(*b*) Food web.

4. What is air pollution ? Describe causes of air pollution.

Or

Write notes on :

(*a*) Grassland ecosystem

(*b*) Water cycle.

This question paper contains 2 printed pages]

W—70—2018

FACULTY OF SCIENCE

B.Sc. (Second Year) (Fourth Semester) EXAMINATION

OCTOBER/NOVEMBER, 2018

(CBCS/OGPA Pattern)

BOTANY

Paper VIII

(Gymnosperms and Paleobotany)

(MCQ & Theory)

(Tuesday, 16-10-2018) Time : 2.00 p.m. to 4.00 p.m.

Time—2 Hours *Maximum Marks—40*

N.B. :— (*i*) Attempt *All* questions.

(*ii*) *All* questions carry equal marks.

(*iii*) Choose the correct answer for MCQs.

MCQ

1. Multiple Choice Questions : 10

(*i*) The word Gymnosperms was firstly used by :

(*a*) Aristotle (*b*) Spurne

(*c*) Theophastus (*d*) Linnaeus

(*ii*) Except Gnetum in Gymnospermic plants xylem lacks :

(*a*) Vessels (*b*) Tracheids

(*c*) Xylem parenchyma (*d*) Xylem fibres

(*iii*) The number of neck canal cells in cycas are :

(*a*) One (*b*) Two

(*c*) Four (*d*) Nil

P.T.O.

(*iv*) The coralloid roots of cycas shows association with :

(*a*) Fungi (*b*) Cyanobacteria

(*c*) Mycoplasma (*d*) All of these

(*v*) In pinus leaves are :

(*a*) Unipinnate (*b*) Dimorphic

(*c*) Palmate (*d*) Paripinnate

(*vi*) Pinus is :

(*a*) Dioecious (*b*) Monoecious

(*c*) Bisexual (*d*) None of these

(*vii*) Archegonia are absent in :

(*a*) Cycas (*b*) Gnetum

(*c*) Pinus (*d*) All of these

(*viii*) Gnetum montanum species is used as :

(*a*) Weedicide (*b*) Fish poison

(*c*) Animal poison (*d*) Bird poison

(*ix*) Era of primitive life regarded as :

(*a*) Paleozoic (*b*) Mesozoic

(*c*) Canozoic (*d*) Archeozoic

(*x*) The fossil created by deposition of hard sediment around plant fragments is :

(*a*) Cast (*b*) Petrifaction

(*c*) Compression (*d*) Impression

Theory

2. Describe in detail T.S. of Cycas Pinna. 10

Or

Write in brief on :

(*a*) Primary growth in cycas stem

(*b*) Megasporophyll of cycas.

3. Define secondary growth. Describe secondary growth in pinus old stem. 10

Or

Write in brief on :

(*a*) Structure of Pinus ovule

(*b*) Xerophytic characters of Pinus.

4. Describe in detail anatomical structure of Gnetum stem. 10

Or

Write in brief on :

(*a*) Compression

(*b*) Process of fossilization.

This question paper contains 3 printed pages]

W—85—2018

FACULTY OF SCIENCE

B.Sc. (Second Year) (Fourth Semester) EXAMINATION

OCTOBER/NOVEMBER, 2018

(CBCS/COPA)

BOTANY

Paper IX

(Ecology and Environmental Biology)

(MCQ & Theory)

(Friday, 19-10-2018) Time : 2.00 p.m. to 4.00 p.m.

Time—2 Hours *Maximum Marks—40*

N.B. :— (*i*) Attempt *All* questions.

(*ii*) *All* questions carry equal marks.

(*iii*) Illustrate your answers with suitable diagrams.

MCQ

1. Multiple Choice Questions :

(*i*) The term ecology was coined by :

(*a*) Strasburger (*b*) Haeckel

(*c*) H. Reiter (*d*) Odum

(*ii*) The lowest layer of atmosphere is :

(*a*) Exosphere (*b*) Thermosphere

(*c*) Troposphere (*d*) Mesosphere

(*iii*) The viviparous mode of seed germination is found in :

(*a*) Halophytes (*b*) Hydrophytes

(*c*) Xerophytes (*d*) None of these

P.T.O.

(iv) Casuarina and Ziziphus are :

(a) Non-succulent xerophytes (b) Ephemerals

(c) Succulent xerophytes (d) None of these

(v) The numerical strength of a species in relation to definite unit area is called :

(a) Frequency (b) Density

(c) Abundance (d) Dominance

(vi) Plants and animals together forms ..... community.

(a) Climatic (b) Inorganic

(c) Abiotic (d) Biotic

(vii) The pyramid of numbers is ..... in pond ecosystem.

(a) Horizontal (b) Diagonal

(c) Inverted (d) Upright

(viii) Sulphur dioxide and nitrogen oxide gases in atmosphere cause :

(a) Global warming (b) Acid rain

(c) Greenhouse effect (d) None of these

(ix) Soil erosion can be prevented by :

(a) Over-grazing (b) Removal of vegetation

(c) Deforestation (d) Afforestation

(x) To prevent cutting of trees 'Chipko movement' commenced in ..... District.

(a) Almora (b) Tehri-Garhwal

(c) Nainital (d) Haldwani

Theory

2. Describe in detail various components of soil.

Or

Write notes on :

(*a*) Temperature as climatic factor

(*b*) Nerium leaf.

3. What are hydrophytes ? Describe morphological and anatomical adaptations in hydrophytes.

Or

Write notes on :

(*a*) Abiotic component of Ecosystem

(*b*) Food Web.

4. Describe nitrogen cycle in detail.

Or

Write notes on :

(*a*) Deforestation

(*b*) Pond Ecosystem.

[This question paper contains 3 printed pages]

Y—99—2019

FACULTY OF SCIENCE

B.Sc. (Second Year) (Fourth Semester) (Regular) EXAMINATION

OCTOBER/NOVEMBER, 2019

BOTANY

Paper IX

(Ecology and Environmental Biology)

(MCQ & Theory)

(Tuesday, 19-11-2019) **Time : 2.00 p.m. to 4.00 p.m.**

Time—2 Hours *Maximum Marks—40*

N.B. :— (*i*) Attempt *all* questions.

(*ii*) *All* questions carry equal marks.

(*iii*) Illustrate your answer with suitable diagrams.

MCQ

1. Multiple Choice Questions : 10

(*i*) The term ecosystem was coined by.....

(*a*) Strasburger (*b*) Hanstein

(*c*) A.G. Tansley (*d*) Odum

(*ii*) The outer most layer of atomsphere is.....

(*a*) Troposphere (*b*) Thermosphere

(*c*) Exosphere (*d*) Mesosphere

(*iii*) The plants growing in saline soil are called as.....

(*a*) hydrophytes (*b*) halophytes

(*c*) xerophytes (*d*) None of these

(*iv*) Hydrilla and Nymphea are examples of .....

(*a*) xerophytes (*b*) halophytes

(*c*) hydrophytes (*d*) None of these

P.T.O.

(v) Well developed root system, thick cuticle and sunken stomata are found in.....

(a) xerophytes (b) halophytes

(c) hydrophytes (d) None of these

(vi) The relastionship where two populations complete each other for same resources in the habitat is.....

(a) Neutralism (b) Competition

(c) Mutualism (d) None of these

(vii) The plants having perennating buds on under ground plant body are.....

(a) Chamaephytes (b) Cryptophytes

(c) Therophytes (d) None of these

(viii) The conversion of amino acids and proteins into ammonia is called as.....

(a) ammonification (b) nitrogen fixation

(c) nitrification (d) denitrification

(ix) The causes of soil pollution are.....

(a) Urbanization (b) Industrialization

(c) Population increase (d) All of these

(x) The chipko movement was initiated by.....

(a) Medha Patkar (b) Sunderlal Bahuguna

(c) Rajendra Singh (d) Anna Hajare.

Theory

2. What are ecological factors ? Describe light and temperature as ecological factors. 10

Or

Write notes on :

(*a*) Soil profile

(*b*) Hydrilla stem.

3. What are xerophytes ? Describe morphological and anatomical adaptations in xerophytes. 10

Or

Write notes on :

(*a*) Pond ecosystem

(*b*) Pyramid of energy.

4. Describe in detail Nitrogen cycle in ecosystem. 10

Or

Write notes on :

(*a*) Soil conservation

(*b*) Grassland ecosystem.

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Y—81—2019

FACULTY OF SCIENCE

B.Sc. (Fourth Semester) (Backlog) EXAMINATION

NOVEMBER/DECEMBER, 2019

BOTANY

Paper-VIII

(Gymnosperm and Palaeobotany)

(MCQ & Theory)

(Monday, 23-12-2019) **Time : 2.00 p.m. to 4.00 p.m.**

Time—2 Hours *Maximum Marks—40*

N.B. :— (*i*) Attempt *all* questions.

(*ii*) *All* questions carry equal marks.

(*iii*) Choose the correct answer for MCQs.

MCQ

1. Multiple Choice Questions : 10

(*i*) Gymnosperms differ from angiosperms in possessing.....

(*a*) Naked ovules (*b*) Cones

(*c*) Complete flowers (*d*) Both (*a*) & (*b*)

(*ii*) An evergreen, Palm like gymnospermic plant.....

(*a*) Pinus (*b*) Gnetum

(*c*) Cycas (*d*) Ephedra

(*iii*) A dwarf shoot with a cluster of needles is called as.....

(*a*) Unifoliar spur (*b*) Foliar spur

(*c*) Bifoliar spur (*d*) Trifoliar spur

(*iv*) The leaf of pinus is called as amphistomatic because of.....

(*a*) Stomata are on upper surface

(*b*) Stomata are on lower surface

(*c*) Stomata are on all surfaces

(*d*) Absence of stomata.

P.T.O.

(v) The winged pollen grains are found in.....

(a) Gnetum (b) Pinus

(c) Cycas (d) All of these

(vi) Sporophytic plant of Gnetum looks like.....plant

(a) Bryophytic (b) Pteridophytic

(c) Both (a) & (b) (d) Angiospermic

(vii) Xylem of Gnetum consists of.....

(a) Sieve tubes (b) Vessels

(c) Tracheids (d) Both (a) & (b)

(viii) Gnetum is.....

(a) Dioecious and Heterosporous

(b) Dioecious and homosporous

(c) Monoecious and homosporous

(d) Monoecious and Heterosporous

(ix) Father of Indian Paleobotany.....

(a) Ram Sahni (b) C.R. Reddy

(c) Theophrastus (d) Birbal Sahni

(x) Internal structures are well preserved in.....

(a) Cast (b) Petrifaction

(c) Amber (d) Impression

Theory

2. Describe the anatomy of cycas leaflet with well labelled diagram and add a note on its xerophytic characters. 10

Or

Explain in brief on :

(a) Economic importance of Cycas.

(b) General characters of Gymnosperms.

3. Describe external morphology of vegetative structures of Pinus. 10

Or

Write short notes on :

(*a*) Male cone of pinus.

(*b*) L.S. of mature female cone of pinus.

4. Define secondary growth. Describe secondary growth in Gnetum stem. 10

Or

Write short notes on :

(*a*) Process of plant fossilization

(*b*) Petrifaction.

HALL. No. 06

SD

12:00 to 1:00

Swami RamanandTeerthMarathwada, University, Nanded Winter Exam-2021

Class: B.Sc. S.Y (SEM - III)

Sub: Botany

M.C.Q

Cluster Code : SD

Plant Physiology and Bio-chemistry- Paper No. VII

Date: 10/03/2021 **Time: One Hour** **Maximum Marks:40**

i) Attempt all questions.

ii) All question carry equal marks.

iii) Chose most appropriate answer from given alternatives.

iv) Negative marking system is not applicable.

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1)The movement of solute particles from a region of higher concentration to a region of their lower concentration is called:

a)Plasmolysis b)Diffusion

C)Endosmosis d) Exosmosis

2) The absorption of water by hydrophilic colloids is called:

a) Osmosis b) Diffusion

c)Plasmolysis d) Imbibition

3)The membrane does not allow the passage of any substance in or out is the:

a) Permeable b) Semipermeable

c) Impermeable d)All the above

4) Dry wood piece when placed in a water they absorbs water and then swells is due to:

a)Exosmosis b)Endosmosis

c) Imbibition d)Plasmolysis

5) The excess loss of water through aerial parts in the form of water vapours is called as:

a) Transpiration b) Guttation

c)Imbibition d) Evaporation

6)Themost common type of transpiration is the:

a)Cuticular b) Stomatal

c)Lenticular d) None of these

7) The movement of plants which occur in response to the gravity is the:

a)Geotropism b) Chemotropism

c)Phototropism d)Thgmotropism

8) The element which is required for the plant growth in less amount is

a) Molybdenum b) Phosphorus

c)Potassium d)Nitrogen

9)The plants absorbs nitrogen from the soil in the form of:

a) Nitrous acid b) Nitrates

c) Nitric acid d) Phosphoric acid

10)The translocation of organic solutes takes place through:

a) Xylem b) Phloem

c) Collenchyma d) Parenchyma

11) Translocation of sugar in higher plants occurs in the form of:

a) Glucose b) Fructose

c)Sucrose d)Lactose

12) The third phase of the growth in plant is:

a) Cell division b)Cell Enlargement

c) Cell Maturation d) None of these

13)The plant growth can be measured by:

a)Ganong's photometer b) Arc indicator

c) Both a) and b) d)Farmer's photometer

14)The plant growth hormone Indole acetic acid is also known as:

a)2,4D b) ABA

c) Auxin d) Cytokinin

15) The fruit ripening hormone in plant is:

a) Auxin b) Gibberllins

c) Cytokinin d) Ethylene

16)The main practical application of the cytokinin is the:

a) Control flowering b)Breaking dormancy

c)Promote cell division d) fruit ripening

17) The process of rupturing the seed coat to break dormancy is called as:

a)Germination b)Scarification

c) Vernalization d) Pigmentation

18)During seed germination cotyledons pushed above the soil is called:

a) Epigeal germination b) Hypogeal germination

c) Vivipary germination d) None of these

19) Tobacco is the example of:

a)SDP

b) LDP

c) DNP

d) None of these

20)The germination start when fruit attached to parent plant is known as:

a) Epigeal germination

b) Viviparous germination

c) Hypogeal germination

d) None of these

21)The conversion of seedling by chilling treatment in order to accelerate flowering is called as:

a) Dormancy

b) Photoperiod

c) Vernalization

d) Germination

22) Which of the following is not a sugar:

a) Starch

b) Glucose

c) Fructose

d) Sucrose

23) The chief constituent of cell wall is;

a) Starch

b) Cellulose

c) Chitin

d) Carbohydrates

24) The lipids are soluble in:

a) Alcohol

b) Water

c)Both a) and b)

d) None of these

25) The proteins are the building block of:

a) Carbohydrates

b) Starch

c) Lipids

d) Amino acids

26)Which of the following is not a secondary metabolites?

a) Amino acids

b) Tannins

c) Flavonoids

d) Organic acids

27) The main function of flavonoids in plant is:

a) Flowering

b) Defence

c) Pigmentation

d) To break seed dormancy

28)The phenomenon of photoperiodismwas firstly discovered by:

a) Dixson and Jolley

b) Garner and Allard

c) Flint and Alister

d) Kogl and Smith

29) The Polysaccharide is made up of large no. of ..... units:

a) Monosaccharides

b) Disaccharides

c) Oligosaccharides

d) Protein

30)Haemoglobin has a ..... structure:

a) Primary

b) Secondary

c) Tertiary

d) Quaternary

31) C, H and O are ----------
a) Minor elements
b) Major elements
c) Micro elements
d) Non-essential elements.
32) Tannins are abundant in the fruit of ----------
a) Apple
b) Emblica
c) Banana
d) Mango
33) Ellagic acid is obtained from bark of
a) Apple
b) Pomogranate
c) Mango
d) Emblica
34) Alkaloid are produced in plants as ----------
a) Food substances
b) Tanins
c) Secondary Metabolites
d) None of the above
35) Morphine is a ----------
a) Alkaloid
b) Resin
c) Tanin
d) None of the above
36) ---------- alkaloids are obtained from a fungus *clavicepspurpurea*
a) Morphine
b) Ergot
c) Nicotine
d) None of The Above
37) Lactic acid is formed as a fermentation product of ----------
a) Animal
b) viruses
c) Bacteria
d) None of the above
38) Lipids are organic compounds that include
a) Fats and waxes
b)phospholipids glucolipids and sterols
c) Both a and b
d) None of the above
39) Fats serve as reserve food in ----------
a) Algae
b) Fungi
c) Seeds
d) None of the above
40) ---------- give a protective covering on the upper surface of leaves, stems and fruits.
A) Tanins
b) Resins
c) waxes
d) Proteins

This question paper contains 2 printed pages]

SB—63—2022

FACULTY OF SCIENCE

B.Sc. (Second Year) (Fourth Semester) EXAMINATION

MAY/JUNE, 2022

(CBCS/New Course)

BOTANY

Paper-VIII

(Plant Embryology)

(Monday, 13-06-2022) **Time : 2.00 p.m. to 4.30 p.m.**

Time— 2.30 Hours *Maximum Marks—40*

N.B. :— (*i*) Attempt *all* questions.

(*ii*) Draw neat well labelled diagrams wherever necessary.

1. Describe the structure of pollen grain and development of male gametophyte. 15

Or

Describe in brief :

(*a*) Mechanism of pollination in Salvia plant. 8

(*b*) Self pollination and cross pollination. 7

2. Describe the structure of typical ovule. Explain in detail development of monosporic embryo-sac. 15

Or

Describe in brief :

(*a*) Nuclear and cellular type of endosperms. 8

(*b*) Post fertilization changes. 7

P.T.O.

3. Attempt any *two* of the four : 10

(*a*) Male Sterility

(*b*) Agents of Pollination

(*c*) Orthotropous Ovule

(*d*) Seed Dispersal.

This question paper contains 2 printed pages]

SB—87—2022

FACULTY OF SCIENCE

B.Sc. (Second Year) (Fourth Semester) EXAMINATION

MAY/JUNE, 2022

(New Course)

BOTANY

Paper-IX

(Plant Metabolism and Biotechnology)

(Wednesday, 15-06-2022) **Time : 2.00 p.m. to 4.30 p.m.**

Time— 2½ *Hours* *Maximum Marks*—40

N.B. :— (*i*) Attempt *all* questions.

(*ii*) Figures to the right indicate full marks.

(*iii*) Illustrate your answers with suitable diagrams.

1. What is photophosphorylation ? Describe non-cyclic Photophosphorylation. 15

Or

(*i*) Explain in detail lock and key hypothesis. 8

(*ii*) Describe the process of nitrification and denitrification. 7

2. Define gene cloning. Describe process and significance of gene cloning. 15

Or

(*i*) Describe anther culture and production of Haploid Plant. 8

(*ii*) Explain production of Secondary Metabolites. 7

P.T.O.

3. Write notes on any *two* of the following : 10

(*i*) Totipotency of Plant Cell

(*ii*) Fermentation

(*iii*) Ammonification

(*iv*) NCBI.