27628

B.Sc. VI Semester Degree Examination, September/October 2023
BOTANY
Paper – 6.1 : Plant Embryology, Palynology and Biotechnology (New)

Time : 3 Hours Max. Marks : 80

Instructions *: 1) Question No.* ***I*** *of the Part –* ***I*** *is* ***compulsory****.*
2) Answer ***any four*** *questions from Part –* ***II****.*
3) Answer ***any six*** *questions from Part –* ***III****.*

PART – I

I. Answer the following. **(8×2=16)**

1) What is hypostase ?

2) What is agamospermy ?

3) What are embryoids ?

4) What is triple fusion ?

5) What is parthenocarpy ?

6) Define herkogamy.

7) What is bitegmic condition ? Give example.

8) What are pro-ubish bodies ?

PART – II

II. Answer **any four** of the following. **(4×4=16)**

9) Pollen embryosac.

10) Structure of female gametophyte.

P.T.O.

11) B.M. Johri.

12) Steps involved in genetic finger printing.

13) Golden rice.

14) Tapetum and its significance.

PART – III

III. Answer **any six** of the following. **(6×8=48)**

15) Explain the significance of P.T.C.

16) Explain the steps involved in recombinant DNA technology.

17) Describe anther development.

18) Describe bisporic embryosac development.

19) Explain causes of polyembryony and its significance.

20) Describe monocot embryo development.

21) Describe any two types of endosperm development.

22) Explain morphology of pollengrain and its significance.

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B.Sc. VI Semester Degree Examination, Sept./Oct. 2022
BOTANY
Paper – 6.1 (New) : Plant Embryology, Palynology and Biotechnology

Time : 3 Hours Max. Marks : 80

Instructions : *1) Question – **I** of the Part – **I** is **compulsory**.*
*2) Answer **any four** questions from Part – **II**.*
*3) Answer **any six** questions from Part – **III**.*

PART – I

I. Answer the following : **(8×2=16)**

1) What are Junk DNA ?
2) What is monosiphonous condition ?
3) What is pollen embryo sac ?
4) What are molecular stichers ?
5) What is chalazogamy ?
6) What is perisperm ?
7) What is parthenocarpy ?
8) What is adventive embryony ?

PART – II

II. Answer **any four** of the following : **(4×4=16)**

9) T. S. of Mature anther
10) P. Maheswari
11) B. T. Cotton
12) Applications of DNA finger printing.
13) Morphology of pollengrain
14) Entomophily.

P.T.O.

PART – III

III. Answer **any six** of the following : **(6×8=48)**

15) Explain tetrasporic adoxa type of embryosac development.

16) Explain steps involved in plant tissue culture technology.

17) Explain significance of genetic engineering technology.

18) Explain male gametophyte development in angiosperm.

19) Explain types of apomixis. Add a note on significance.

20) Describe dicot embryo development.

21) Describe ovule at the time of fertilization.

22) Explain contrivances of self and cross pollination.

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11628(Old)

B.Sc. VI Semester Degree Examination, September- 2021

BOTANY

CYTOLOGY GENETICS - BIOSTATISTICS PLANT BREEDING PLANT PROPAGATION NURSERY MANAGEMENT

PAPER - 6.1

(Old Syllabus)

Time : 3 Hours **Maximum Marks : 80**

Instructions to Candidates:

1. *Questions in **Part - I** is compulsory.*
2. *Answer any **Ten** Questions from **Part - II**.*
3. *Labelled diagrams will enhance the value of answers.*

PART - I

I. Answer the following. **(8×2=16)**

1) What is mean?

2) What is clonal selection?

3) What is heterosis?

4) Differentiate between Genotype and Phenotype.

5) Define law of dominance?

6) What are non sense codons?

7) Write any 04 functions of nucleus.

8) What are chromosomal Puffs?

[P.T.O.

PART - II

II. Answer any **04** of the following questions. **(4×4=16)**

9) Nucleosome structure.

10) Law of Purity of gametes.

11) Sex - linked inheritance.

12) Klinfeltor syndrome.

13) t - RNA structure.

14) Commercial green house.

III. Answer any **Six** of the following. **(6×8=48)**

15) Explain supplementary factors with example.

16) Describe the transcription process in Protein synthesis.

17) Explain crossing over mechanism.

18) Describe any 02 types of grafting and its advantages.

19) Describe structure and functions of Mitochondria.

20) Explain steps involved in hybridization.

21) Describe double helix model of DNA.

22) Explain significance of Nursery management.

27628(New)

B.Sc. VI Semester Degree Examination, September - 2021

BOTANY

Plant Embryology, Palynology and Biotechnology

Paper : 6.1

(New Syllabus)

Time : 3 Hours **Maximum Marks : 80**

Instructions to Candidates :

1. Question No. - 1 of the **Part - I** is compulsory.
2. Answer any **Ten** questions from **Part - II.**
3. Labelled diagrams will enhance the value of answer.

PART - I

I. Answer the following. **(8×2=16)**

1. What is tenuinucellate ovule? Ex.
2. What is Ruminant endosperm?
3. What is recurrent apomixis?
4. What is cleistogamy?
5. What is totipotency?
6. What is suspensor? Mention function.
7. What are molicular scissors?
8. What is male germ unit?

PART - II

II. Answer any **four** of the following. **(4×4=16)**

9. BGL swamy.
10. Golden rice.
11. Applications of palynology.
12. Parthanocarpy and significance.
13. DNA finger printing.
14. Advantages and disadvantages of cross pollination.

[P.T.O.

III. Answer any **six** of the following. **(6×8=48)**

15. Explain microsporogenesis in angiosperms.
16. Explain monosporic polygonum type of embryo sac development.
17. Describe double fertilization process in angiosperms.
18. Explain any two types of endosperm development.
19. Explain types of polyembryony. Add a note on significance.
20. Describe cruciferae type of embryo development.
21. Explain steps involved in recombinant DNA technology.
22. Explain role of plant tissue culture in Agriculture.

27629(New)

B.Sc. VI Semester Degree Examination, September - 2021

BOTANY

Plant Physiology and Phytochemistry

Paper : 6.2

(New Syllabus)

Time : 3 Hours **Maximum Marks : 80**

Instructions to Candidates :

1. Part - I is compulsory.
2. Answer any **ten** questions in Part - II.
3. Labelled diagrams enhance the value of answer.

PART - I

I. Answer the following. **(8×2=16)**

1. What is devernalization?
2. Draw a neat labelled diagram of hydathode.
3. Define exosmosis and endosmosis.
4. Differentiate between TP and W.P.
5. Define Blackman's law of limiting factor.
6. What is RQ, Mention the value of carbohydrates and proteins.
7. What are hydrolytic enzymes mention any two.
8. What is apical dominance? Mention its effects.

PART - II

II. Answer any **four** of the following. **(4×4=16)**

9. Mechanism of Biological nitrogen fixation.
10. Lock and key mechanism of enzyme action.
11. Sugar and starch interconversion theory of stomatal mechanism.
12. What is Photoperidism? Explain SDP and LDP.
13. 'Geotrophism'.
14. Role of Plant growth regulators in Senescence.

[P.T.O.

III. Answer any **six** of the following. **(6×8=48)**

15. Explain EMP pathway.
16. Explain TCA cycle.
17. Explain physiological applications of cytokinins.
18. Explain dark reaction of photo - synthesis.
19. Explain theories of absorption of mineral salts.
20. Explain the mechanism of seed dormancy.
21. Describe theories of translocation of organic solutes.
22. Explain Hatch - slack pathway.

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B.Sc. VI Semester Degree Examination, September- 2020

BOTANY

Cytology, Genetics Biostatistics Plant breeding,

Plant Propagation, Nursery Management

Paper: 6.1

Time : 3 Hours **Maximum Marks : 80**

Instructions to Candidates:

1) Questions in Part - I are Compulsory
2) Answer any FOUR questions from Part - II
3) Labelled diagrams will enhance the value of answer

PART - I

I. Answer the following. **(8×2=16)**

1. What are polyribosomes?

2. What are Okazaki fragments?

3. Differentiate between genotype and phenotype.

4. What is regression?

5. What is pure line selection?

6. What is Y-linked inherantance?

7. What is dihybrid test cross?

8. Draw and label the Lamp brush chromosome.

PART - II

II. Answer any FOUR of the following. **(4×4=16)**

9. Hybrid vigour and its significance.

10. Incomplete dominance.

11. Turner syndrome

12. m.RNA structure

13. Sex Determination in Dorsophila

14. Translocation and its effect.

[P.T.O

PART - III

III. Answer any Six of the following. **(6×8=48)**

15. Describe the structure and functions of Mitochondria.
16. What is Genetic code? Explain properties.
17. Explain Watson and Crick model of DNA.
18. Explain steps involved in hybridization
19. Describe Incomplete linkage. With suitable example.
20. Explain any two types of Green houses and its advantages.
21. Explain complementary factors with suitable examples.
22. Explain any two types of cutting and its advantages.

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11629

B.Sc. VI Semester Degree Examination, September - 2020

BOTANY

Plant physiology and Biotechnology

Paper: 6.2

Time : 3 Hours Maximum Marks : 80

Instructions to Candidates: 1) Questions in Part - I are Compulsory

2) Answer any Ten questions from Part - II

3) Labelled diagrams will enhance the value of answers

PART - I

I. **Answer the following.** (8×2=16)

1. Differentiate between endo and exo osmosis.
2. What are artificial seeds?
3. What are stress hormone? Write its role in plants.
4. What is Pasture effect?
5. What are Quantosomes?
6. What is devernalization?
7. Write a note on antitranspirants and their use.
8. What is Sigmoid curve? Mention its phases.

PART - II

II. **Answer any FOUR of the following.** (4×4=16)

9. Characteristics of enzymes.
10. Cohesive force theory of ascent of sap.
11. Applications of Gibberllins.
12. Terminal oxidation
13. RQ and its types.
14. Thigmotrophism

[P.T.O

PART - III

III. Answer any Six of the following. **(6×8=48)**

15. Describe the Hill reaction of photosynthesis.
16. Describe the C_4 pathway of photosynthesis.
17. What is photoperiodism? Explain the types.
18. Describe the glycolysis.
19. What are transgenic plants? Explain the steps involved in the production of Bt cotton.
20. Explain the theories of mineral salt absorption.
21. Explain the theories of opening and closing of stomata.
22. Define translocation. And explain its path with different theories in plants.

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B.Sc. VI Semester Degree Examination, April/May - 2019

BOTANY

Plant Physiology and Biotechnology

PAPER - VII 6.2

Time : 3 Hours Maximum Marks : 8

Instructions to Candidates:

1. Answer **ALL** the questions from part-I
2. Answer any **TEN** questions from part-II
3. Labelled diagram will enhance the value of answer.

Part-I

I. Answer the following questions : **(8×2=16)**

1. Define fermentation. Mention its types.
2. What is apical dominance? Mention its effects.
3. Define photophosphorylation. Mention its types.
4. Write the difference between transpiration and guttation.
5. Differentiate between WP and TP.
6. What are plasmids? Mention its function.
7. Define RQ. Mention the value of fat with example.
8. What is RUBISCO? Mention the function.

[P.T.O.

Part-II

II. Answer any **four** of the following questions. **(4×4=16)**

9. Explain the mechanism of passive absorption of mineral salt.
10. Explain K^+ion Transport concept.
11. Explain Hatch and Slack pathway.
12. What is Ascent of sap? Explain Transpiration pull Theory.
13. Explain Munch's mass flow hypothesis.
14. What is photoperiodism? Explain SDP and LDP.

III. Answer any **six** of the following questions. **(6×8=48)**

15. Explain the mechanism of absorption of water.
16. Describe citric acid cycle and its significance.
17. Define phytohormones. Describe physiological role of auxin.
18. Write the steps involved in tissue culture.
19. Explain the Theories of opening and closing of stomata.
20. Explain EMP pathway.
21. Explain Co_2 assimilation in C_3 plants and calculate total energy release.
22. What are transgenic plants? Explain steps involved in production of golden rice.

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B.Sc. VI Semester Degree Examination, April/May - 2019

BOTANY

Cytology, Genetics, Biostatistics Plant Breeding, Plant Propagation, Nursery Management

PAPER - VII-6.1

Time : 3 Hours | Maximum Marks : 80

Instructions to Candidates:

1) Questions in Part-I are **compulsory**
2) Answer any **Ten** Questions from Part-II
3) Labelled diagrams will enhance the value of answer.

Part-I

I. Answer the following **(8×2=16)**

1. Draw Ultrastructure of plant cell
2. What is Inversion?
3. What is allele? Give example.
4. What is hypertrichosis?
5. What is mean and mode?
6. What is heterosis?
7. What are indoor plants? How they purify air.
8. What are vegetatively propagating plants? Give examples

[P.T.O.

Part-II

II. Answer any **Four** of the following **(4×4=16)**

9. Describe somatic hybridization.
10. Explain sex linked inheritance with example.
11. Explain XX, XY method of sex determination
12. Explain Mendel's law of segregation.
13. Describe Nucleosome structure.
14. Explain commercial Green house.

III. Answer any **Six** of the following **(6×8=48)**

15. Describe the structure and functions of Chloroplast
16. Describe Semi conservative method of DNA replication
17. What is layering? Explain different types of layering
18. Explain nursery management and its significance
19. Explain steps involved in translation of protein synthesis
20. Explain multiple alleles and Skin colour in human beings
21. What is chromosomal aberration? Explain deletion and duplication
22. Explain structure and function of Nucleus.

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B.Sc. VI - Semester Degree Examination, May - 2018

BOTANY

Cytology, Genetics, Biostatistics, Plant Breeding, Propagation and Nursery Management

Paper - 6.1

Time : 3 Hours Maximum Marks : 80

Instructions to Candidates:

1) Questions of Part - I are compulsory.
2) Answer any **TEN** questions from Part - II
3) Labelled diagram will enhance the value of answers.

PART-I

I. Answer the following questions. **(8×2=16)**

1. Define hypertrichosis.
2. What is clonal selection?
3. What is mean?
4. Differentiate between homozygous & heterozygous condition.
5. Write any four functions of nucleus.
6. State law of independent assortment.
7. What is dispersive type of DNA replication.
8. What are SAT bodies?

PART-II

II. Answer any **FOUR** of the following questions. **(4×4=16)**

9. t - RNA structure.
10. Allopolyploidy and its significance.

[P.T.O

11. Klinefelters syndrome.
12. Significance of nursery management.
13. Heterogametic female sex determination.
14. Emasculation.

III. Answer any **SIX** of the following questions: **(6×8=48)**

15. Explain somatic hybridization & its significance.
16. What are green houses? Explain their advantages.
17. Explain different types of budding & its advantages.
18. Explain Recessive epistasis with suitable example.
19. Explain transcription process in protein synthesis.
20. Explain fluid mosaic model of plasma membrane & its functions.
21. Describe deficiency of chromosomal aberrations & its effects.
22. Explain the mechanism of crossing over.