

Final M.Sc., Degree Examinations

September/October 2015

(Directorate of Distance Education)

BOTANY

DPB510 : Paper V : Plant Physiology

Time: 3 hrs.]

[Max.Marks:75/85

- Instructions :**
1. Answer all Questions.
 2. Repeaters shall answer questions from Section A, B and C only (Marks 75)

SECTION -A

I. Write brief notes on any SEVEN of the following:

7X3 =21

1. Vander Waal's forces.
2. Casparian thickenings
3. Potamogeton type of stomata
4. Phytochrome
5. M. Calvin
6. Carotenoids
7. Matrix
8. NADP⁺
9. Diffusion pressure deficit
10. Biological clock

SECTION -B

II. Write brief notes on any THREE of the following:

3X8 =24

11. Stomatal apparatus
12. Methods of studying plant nutrition
13. Symplastic and apoplastic pathways
14. History and significance of photosynthesis
15. Ascent of sap

Contd...2

SECTION -C

III. Answer any TWO of the following:

2X15 =30

16. Write an account of EMP pathway and TCA cycle in respiration. Append a note on oxidative phosphorylation.
17. Give a comparative account of C₃ and C₄ pathways. Add a note on CAM plants.
18. Write an account of phytohormones and add a note on their applications.
19. Describe existence of rhythmic component in photoperiodic behavior.

SECTION -D

This Section shall be answered only by Freshers having 85 marks as paper maximum in addition to Section A, B and C

IV. Answer any ONE of the following:

1X10 =10

20. Describe pentose phosphate pathway.
21. Explain the phenomenon vernalization and write its significance.

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BOTANY

DPB520 : Paper VI: Medicinal Plants and Economic Botany

Time: 3 hrs.]

[Max.Marks:75/85

- Instructions :**
1. Answer all Questions.
 2. Repeaters shall answer questions from Section A, B and C only (Marks 75)

SECTION -A

I. Write brief notes on any SEVEN of the following:

7X3 =21

1. *Ruta graveolens*
2. Siddha
3. Mukharjee B.D.
4. Sushruta Samhita
5. Alma – Ata
6. Strychnine
7. CAB ABSTRACTS
8. *Sphagnum sp.*
9. Drug adulteration
10. Phytotoxin

SECTION -B

II. Write brief notes on any THREE of the following:

3X8 =24

11. Medicinal importance of algae and lichens.
12. Poisonous plants and their medicinal value
13. Non – alcoholic beverages
14. Role of biotechnology in conservation
15. Phytochemistry of medicinal plants

Contd...2

SECTION -C

III. Answer any TWO of the following:

2X15 =30

16. Discuss the strategies followed in the conservation of medicinal and aromatic plants
17. Write an account on timber yielding plants.
18. Discuss methods of extraction of volatile oil and write a note on their importance.
19. Discuss the drugs of biological origin

SECTION -D

This Section shall be answered only by freshers having 85 marks as paper maximum in addition to Section A, B and C

IV. Answer any ONE of the following:

1X10 =10

20. Comment on the influence of ethnobotany on the modern system of medicine.
21. Write an account of pesticidal properties of plants.

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BOTANY

DPB530 : Paper VII: Angiosperm Embryology

Time: 3 hrs.]

[Max.Marks:75/85

- Instructions :**
1. Answer all Questions.
 2. Repeaters shall answer questions from Section A, B and C only (Marks 75)

SECTION -A

I. Write brief notes on any SEVEN of the following:

7X3 =21

1. P. Maheshwari
2. Mellitapalynology
3. Heterofertilization
4. Aril
5. Filiform apparatus
6. Triple fusion
7. Cytoplasmic nodules
8. Obturator
9. Diplospory
10. Parthenogenesis

SECTION -B

II. Write short notes on any THREE of the following:

3X8 =24

11. Male germ unit
12. Anther wall development
13. Monosporic embryosac
14. Apospory
15. Induction of seedless fruits

Contd...2

SECTION -C

III. Answer any TWO of the following:

2X15 =30

16. Describe the development of monocot and dicot embryo.
17. Explain the types and role of tapetum in pollen development.
18. Write an account on the special structures of ovules in angiosperms.
19. Describe the nuclear and cellular type of endosperm with examples. Add a note on endosperm haustoria.

SECTION -D

This Section shall be answered only by freshers having 85 marks as paper maximum in addition to Section A, B and C

IV. Answer any ONE of the following:

1X10 =10

20. Describe the scope and importance of palynology.
21. Write an account on polyembryony and its types.

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BOTANY

DPB540 : Paper VIII: Plant Biotechnology and Plant Breeding

Time: 3 hrs.]

[Max.Marks:75/85

- Instructions :**
1. Answer all Questions.
 2. Repeaters shall answer questions from Section A, B and C only (Marks 75)

SECTION -A

I. Write brief notes on any SEVEN of the following:

7X3 =21

1. Fluorescent microscope
2. V8 Juice
3. Epigenetic variation
4. Orbital Shaker
5. DNA complimentarity
6. Fusogen
7. Forme specialis
8. Ionic radiation
9. R - gene
10. Triticale

SECTION -B

II. Write brief notes on any THREE of the following:

3X8 =24

11. Random selection
12. Role of hormones in rooting *invitro*
13. Uses of monoclonal antibodies
14. Male sterility in plant breeding
15. Mutation breeding in vegetative propogated plants

Contd...2

SECTION -C

III. Answer any TWO of the following:

2X15 =30

16. Explain the technique of micropropagation and its significance.
17. Write the methods of producing synthetic seeds and its significance.
18. Discuss methods of plant breeding and write the significance.
19. Explain the types and causes of heterosis and methods to exploit heterosis.

SECTION -D

This Section shall be answered only by freshers having 85 marks as paper maximum in addition to Section A, B and C

IV. Answer any ONE of the following:

1X10 =10

20. Write an essay on blotting techniques and their importance.
21. Give an account of genetics of host pathogen interaction.

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