

# III B.Sc. VI SEMESTER BOTANY-7 QUESTION PAPER

MS - 289

VI Semester B.Sc. Examination, May/June 2014  
(Semester Scheme) (NS) (2013-14 and Onwards)  
BOTANY (Paper - VIII)  
Plant Physiology - II

Time : 3 Hours

Max. Marks : 70

**Instructions :** 1) Answer all Parts.

2) Draw diagrams wherever necessary.

## PART - A

Answer any seven of the following in two or three sentence.

(7×2=14)

- 1) What are Enzyme Inhibitors ? Mention the types.
- 2) State the law of Limiting factors.
- 3) Differentiate between Aerobic Respiration and Anaerobic Respiration.
- 4) What are Vitamins ? Mention the types.
- 5) What is Leg haemoglobin ? Mention its function.
- 6) What is Richmond-Lang effect ?
- 7) What are Raker's particles ?
- 8) Draw a neat labelled diagram of Mitochondrion.
- 9) Give the R. Q. value of proteins and fats.

## PART - B

Answer any six of the following.

(6×4=24)

- 10) Write short note on vernalization. Add a note on its significance.
- 11) Discuss salt stress in plants.
- 12) Write a note on NIF genes.

P.T.O.

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- 13) What are secondary metabolites ? What is their significance to plant defence ?
- 14) What are tropic movements ? Describe hydrotropism.
- 15) What is fermentation ? Explain any two types.
- 16) Explain terminal oxidation.
- 17) Write a brief note on Electrophoresis.

## PART – C

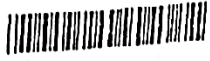
C. Answer **any four** of the following.

(4×8=32)

- 18) Describe Citric Acid cycle with schematic representation.
- 19) Classify enzymes. Give an example for each indicating the reactions catalysed.
- 20) Give an account on Nitrogen fixation.
- 21) Describe the mechanism of photorespiration and add a note on its significance.
- 22) What are Growth regulators ? Explain their role in Agriculture and Horticulture.
- 23) Explain cyclic and noncyclic photophosphorylation.

# III B.Sc. VI SEMESTER BOTANY-7 QUESTION PAPER

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VI Semester B.Sc. Examination, April/May 2015  
(NS) (Fresh) (2013-14 and Onwards)  
BOTANY (Paper - VIII)  
Plant Physiology - II

Max. Marks

Time : 3 Hours

Instructions : 1) Answer all Parts.  
2) Draw diagrams wherever necessary.

## PART - A

A. Answer any seven of the following :

(7×2=)

- 1) Define RQ. Mention its importance.
- 2) What is Hill's reaction? (light reaction)
- 3) What is denitrification?
- 4) Expand PGA and NADPH.
- 5) State the law of limiting factors.
- 6) What is photo respiration? Mention the organelles involved.
- 7) What is proteolytic enzyme? Give an example.
- 8) What is sigmoid curve?
- 9) What is Kranz anatomy?

## PART - B

B. Answer any six of the following :

(6×4=24)

- 10) Write a note on the salient features of CAM plants.
- 11) Describe the methods of breaking seed dormancy.
- 12) Give a note on the role of secondary metabolites in plant defence.
- 13) Give a note on vernalization.
- 14) Write a note on geotropism.
- 15) Differentiate between oxidative and photophosphorylation.
- 16) What are gibberellins? Explain its role in plant growth.
- 17) Write a note on Fermentation.

## PART - C

C. Answer any four of the following.

(4×8=32)

- 18) Describe the biological nitrogen fixation and add a note on nif genes.
- 19) Explain photoperiodism.
- 20) Factors affecting rate of photosynthesis.
- 21) Write a note on Lock and key mechanism of enzyme action.
- 22) Explain the role of growth regulators in Horticulture.
- 23) Describe Kreb's cycle.

P.T.O.

RANJITH KUMAR P I

# III B.Sc. VI SEMESTER BOTANY-7 QUESTION PAPER

MS – 331

VI Semester B.Sc. Examination, May 2016  
(Fresh) (2013-14 and Onwards)  
BOTANY (Paper – VIII)  
Plant Physiology – II

Time : 3 Hours

Max. Marks : 70

- Instructions :** 1) Answer all Parts.  
2) Draw diagrams wherever necessary.

PART – A

A. Answer any seven of the following :

(7×2=14)

- 1) What is solarization ?
- 2) Differentiate Geotropism from Hydrotropism.
- 3) What are allosteric enzymes ?
- 4) Mention the end products of non-cyclic photophosphorylation.
- 5) What is circadian rhythm ?
- 6) What are elementary particles ? What is their function ?
- 7) Draw a neat labelled diagram of the ultrastructure of the chloroplast.
- 8) What is seismonasty ? Give an example.
- 9) What is tracer technique ?

PART – B

B. Answer any six of the following :

(6×4=24)

- 10) Explain Hatch and Slack pathway.
- 11) What is vernalization ? Explain the stages.
- 12) Explain induced fit theory of enzyme action.

P.T.O.

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# III B.Sc. VI SEMESTER BOTANY-7 QUESTION PAPER

MS – 331

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- 13) Describe photorespiration.
- 14) Explain the biosynthesis of amino acids in plants.
- 15) Define growth. Explain Sigmoid growth curve.
- 16) Describe the effect of various factors on the rate of respiration.
- 17) Explain nitrogen cycle.

## PART -- C

C. Answer **any four** of the following :

(4×8=32)

- 18) Explain the steps involved in glycolysis.
- 19) Describe the process of nitrogen fixation in legumes. Add a note on nif genes.
- 20) Explain the physiological effects of Gibberellins and their application in agriculture.
- 21) What are enzymes ? Give the classification of enzymes based on their function.
- 22) Explain the role of phenolics and alkaloids in plant defence.
- 23) Describe C<sub>3</sub> pathway.

# III B.Sc. VI SEMESTER BOTANY-7 QUESTION PAPER



US – 371

VI Semester B.Sc. Examination, May 2017

(CBCS) (Fresh) (2016-17 and Onwards)

**BOTANY – VIII**

**Plant Physiology – II**

Time : 3 Hours

Max. Marks : 70

**Instruction :** 1) Answer *all* questions.  
2) **Draw diagrams wherever necessary.**

A. Explain/Define **any ten** of the following in **two or three** sentences : **(10×2=20)**

- 1) What are Isoenzymes ? Give an example.
- 2) Mention the influence on pH on enzyme action.
- 3) What are hydrolytic enzymes ? Give an example.
- 4) What is amino acid ? Give an example.
- 5) Mention any two non-symbiotic nitrogen fixing organisms.
- 6) What is enzyme specificity ?
- 7) Expand : PGA  
RUDP.
- 8) What are Kranz anatomy ?
- 9) Emerson enhancement effect.
- 10) Mention any two role of ABA in plants.
- 11) Mention any two methods of breaking seed dormancy.
- 12) Write a note on role of secondary metabolites in plant defence.

B. Write critical note on **any four** of the following : **(4×5=20)**

- 13) With neat labelled diagram, explain structure of enzyme.
- 14) Factors affecting enzyme action.
- 15) Differentiate between aerobic and anaerobic respiration.

P.T.O.

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# III B.Sc. VI SEMESTER BOTANY-7 QUESTION PAPER

US – 371



- 16) Cyclic photophosphorylation.
- 17) Define growth. Explain growth curve.
- 18) Physiological effect of ethylene.

C. Give a comprehensive account of **any three** of the following :

**(3×10=30)**

- 19) Explain biological nitrogen fixation and add a note on nif genes.
- 20) Explain citric acid cycle with schematic representation.
- 21) a) Hatch and slack pathway with schematic representation.  
b) Fermentation.
- 22) Define phytohormones. Give an account on physiological role of auxin on plants.
- 23) a) Photoperiodism.  
b) Alkaloids as secondary metabolites.

RANJITH KUMAR H T

# III B.Sc. VI SEMESTER BOTANY-7 QUESTION PAPER

SM – 388

VI Semester B.Sc. Examination, May/June 2018  
(CBCS) (Fresh + Repeaters) (2016-17 and Onwards)  
BOTANY – VIII  
Plant Physiology – II

Time : 3 Hours

Max. Marks : 70

- Instructions :** 1) Answer *all* questions.  
2) Draw diagrams *wherever* necessary.

## PART – A

A. Explain/Define **any ten** of the following in **two** or **three** sentences : (10×2=20)

- 1) Name any two nitrogen containing macromolecules of a cell.
- 2) Differentiate a co-factor from a co-enzyme.
- 3) What is ammonification ?
- 4) Name two synthetic auxins.
- 5) Draw the sigmoid growth curve.
- 6) What are secondary metabolites ? Give one example.
- 7) What are tropic movements ? Give an example.
- 8) What is terminal oxidation ?
- 9) What is an active site ?
- 10) Why is Calvin cycle also known a C<sub>3</sub> pathway ?
- 11) What are vitamins ? Give the chemical name of any one vitamin.
- 12) Expand :
  - i) RuBP
  - ii) RuBISCO.

P.T.O.

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# III B.Sc. VI SEMESTER BOTANY-7 QUESTION PAPER

SM – 388

## PART – B

- B. Explain critical notes on **any four** of the following : (4×5=20)
- 13) Enzyme kinetics
  - 14) Synthesis of amino acids
  - 15) Factors affecting respiration
  - 16) Emerson-enhancement effect
  - 17) Cytokinins
  - 18) Classification of enzymes.

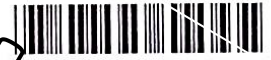
## PART – C

- C. Give a comprehensive account of **any three** of the following : (3×10=30)
- 19) Explain the light reaction of photosynthesis.
  - 20) Explain Kreb's cycle.
  - 21) Give an account of photoperiodism and phytochrome.
  - 22) What are the physiological effects of auxins ?
  - 23) What is symbiotic nitrogen fixation ? Explain with reference to legume-Rhizobia interaction.

# III B.Sc. VI SEMESTER BOTANY-7 QUESTION PAPER

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No. of Printed Pages : 2



**GS-342**

VI Semester B.Sc. Examination, May/June - 2019

**BOTANY - VIII**

**Plant-Physiology - II**

(CBCS) (F+R) (2016-17 & onwards)

Time : 3 Hours

Max. Marks : 70

- Instructions :** 1. Answer **all** parts.  
2. Draw diagrams wherever necessary.

**PART - A**

**A.** Explain/Define **any ten** of the following in **two or three** sentences : **10x2=20**

1. What are enzyme inhibitors ? Mention the types.
2. What is an amino acid ? Give an example.
3. Mention any two non symbiotic nitrogen fixing organisms.
4. Expand : ATP  
PGA
5. Draw a neat labelled diagram of Mitochondrion.
6. What is Kranz anatomy ?
7. Mention any two methods of breaking seed dormancy.
8. State Blackman's law of limiting factors.
9. What are isomerases ? Give one example.
10. Mention any two roles of Auxins in plants.
11. What is vernalization ?
12. What are short day plants ? Give an example.

**P.T.O.**

# III B.Sc. VI SEMESTER BOTANY-7 QUESTION PAPER

GS-342

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## PART - B

B. Explain critical notes on **any four** of the following :

4x5=20

13. Factors affecting enzyme action.
14. Non cyclic photophosphorylation.
15. Role of Rhizobium in legumes.
16. Law of limiting factors with a suitable example.
17. Nitrification and Denitrification.
18. Factors affecting Growth.

## PART - C

C. Give a comprehensive account of **any three** of the following :

3x10=30

19. Explain  $C_4$  cycle. Add a note on its significance.
20. What is EMP pathway? Explain the steps involved in it.
21. Explain the properties of enzyme. Add a note on lock and key mechanism.
22. What are phytohormones? Explain the effects of Gibberellins on plants.
23. Explain :
  - (a) Phototropism
  - (b) Secondary metabolites

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