



FIJI NATIONAL UNIVERSITY
College of Agriculture, Fisheries & Forestry
Department of Genetics & Plant Breeding
Bachelor of Agriculture- Year I
Trimester II- Final Examination - 2017
CPH 501: Crop Physiology

Time Allowed: 3.00 hours plus (10 minutes reading time) Total Marks: 75

INSTRUCTIONS:

1. This paper consists of five pages including two pages Answer Sheet.
2. Please check to see that all your paper is complete.
3. Answer all the Objective Type Questions on the Answer Sheet and Descriptive Type Question in the Answer Booklet only.
4. The Answer sheet of the objective Type Questions should be tied with the main sheet.
5. Follow the same question number while writing answers in the answer booklet.
6. No written or printed material and mobile phones are allowed in the examination hall
7. Marks allocated for each question appears at the side of each question so allocate your time accordingly.
8. This paper is divided into Two Parts. First Part contains Objective Type Questions which is having three Sections – A, B & C. All questions of this part are compulsory. Second part is Descriptive Type which is having three sections D, E & F.

I. OBJECTIVE TYPE QUESTIONS (30 Marks)

Note: Answer only on the Answer Sheet provided with question paper.

- Section A : Choose the best answer. (10 Marks)
Section B : Fill in the blanks. (10 Marks)
Section C : Match the following. (10 arks)

II. DESCRIPTIVE TYPE QUESTIONS (45 marks)

There are **Six (6)** questions on Section D, you attempt only **Five (5)**, followed by Section E contain **Four (4)** questions, do attempt only **Three (3)**, and then in Section F **Three (3)** questions are given, do attempt only **two (2)** from it

Note: Answer only on the Answer Booklet provided.

- Section D : Definitions (10 Marks)
Section E : Short Answer (15 Marks)
Section F : Descriptive Question (20 Marks)

I. OBJECTIVE TYPE QUESTIONS

Note: To be answered only on the ANSWER SHEET provided with QUESTION PAPER.

A. FILL IN THE BLANKS.**(10x1= 10****Marks)**

1. _____ growth some parts of a plants organs cease to grow at a certain size.
2. _____ increases cold resistance in plants.
3. Stored food materials of seeds are called _____.
4. _____ process maintains an optimum temperature for the leaves.
5. Plants respond specifically to changes in day length and is called _____.
6. The _____ Cycle is also known as Tricarboxylicacid Cycle.
7. During Photosynthesis, light energy is converted into _____.
8. The transport of sucrose through phloem is _____.
9. The chloroplast is divided by membranes called _____.
10. _____ nutrition is fertilizing certain crop plants through aerial spraying.

B. CHOOSE THE BEST ANSWER.**(10x1= 10 Marks)**

11. Pure water has the maximum water potential _____.

a Zero	b One
c Less than One	d More than One
12. Seeds with high _____ would have higher respiration rates.

a Viability	b Water content
c Vigour	d Dormancy
13. The roots and stems are _____.

a Apical organ	b Growth organ
c Determinate Organ	d Indeterminate organ
14. Water potential is calculated by _____.

a $\Psi_m + \Psi_s$	b $\Psi_m + \Psi_p$
c $\Psi_m + \Psi_s + \Psi_p$	d None of the above
15. _____ is the hormone which promotes the fruit ripening.

a Auxin	b Gibberellin
c Cytokinin	d Ethylene
16. Translocation of water and minerals takes place through _____.

a Apoplast	b Symplast
c Xylem	d Phloem
17. _____ maintains the cells turgor pressure.

a Air	b CO ₂
c Water	d None of the above
18. The respiration can be measured by _____.

a Respiratory coefficient	b respiration quotient
c Co-efficient of Respiration	d
19. The seeds stored in a state of high moisture content are called as _____ seeds.

a Viable stratified	b Innate Dormant
c Vigorous calcitrant	d Recalcitrant
20. Auxins stimulate cell elongation and root initiation.

a Photorespiration	b Photosynthesis
c Phosphophotosystem	d Photophosphorylation

C. MATCH THE FOLLOWING:

(10x1 = 10 Marks)

- | PART - A | | PART-B | |
|----------|----------------------|--------|---------------------------------|
| 21. | Harvestable maturity | A. | CAM Pathway |
| 22. | Tetrazolium | B. | Carbon dioxide levels |
| 23. | Apical meristem | C. | Chemical compounds for plants |
| 24. | Stomata | D. | Degrade Glucose |
| 25. | Transpiration | E. | Farmers decision |
| 26. | Cotyledons | F. | Increase in length of plants |
| 27. | Pineapple | G. | Living cells a red colour |
| 28. | Glycolysis | H. | Loss of water |
| 29. | Nutrients | I. | Occur in Mitochondria |
| 30. | Phytochrome | J. | Pigment in Photoperiod |
| | | K. | Regulate transpiration |
| | | L. | Temporary food supply |
| | | M. | Transport of water and minerals |

II. DESCRIPTIVE TYPE QUESTIONS

*Note: To be answered only on the ANSWER BOOKLET provided.*D. DEFINITIONS - Attempt Any Five Questions*Each question carries TWO marks*

(5 x 2 = 10 Marks)

- | | | | |
|-----|------------------------------------|-----|----------------------|
| 31. | Endosperm & Cotyledon | 34. | Vigor & Viability |
| 32. | Determinate & Indeterminate Growth | 35. | Harvestable Maturity |
| 33. | Apoplast & Symplast Transport | 36. | Biological clock |

E. SHORT ANSWER - Attempt Any Three Questions (1 Page each).*Each question carries Five marks*

(3x 5 = 15Marks)

37. Describe two types of Photosystems.
38. Describe the Growth Curve.
39. Describe the difference between Photosynthesis and Respiration
40. Describe the photoperiodism and biological clock.

F. DESCRIBE THE FOLLOWING - Attempt Any Two Questions (2 Pages each).*Each question carries TEN marks*

(2 x 10 = 20 Marks)

41. Define and Describe about transpiration. Explain the role of stomata in transpiration.
42. Describe the seed germination process. Explain the factors which affect germination
43. Describe the process and types of respiration based on organic substance to CO₂ and water.

The End

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B. Sc. Agriculture Trimester-II, Final Examination-2017**Unit Code/Title: CPH 501 –Crop Physiology****I-Objective Type Questions - Answer Sheet**

Time: 45 Minutes

Total Marks: 30

A.	1.		
	2.		
	3.		
	4.		
	5.		
	6.		
	7.		
	8.		
	9.		
	10.		
B.	11.		
	12.		
	13.		
	14.		
	15.		
	16.		
	17.		
	18.		
	19.		
	20.		
C.	21.		
	22.		
	23.		
	24.		
	25.		
	26.		
	27.		
	28.		
	29.		
	30.		

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