

THE OPEN UNIVERSITY OF SRI LANKA

B.Sc. DEGREE PROGRAMME- 2014/2015

BOTANY- LEVEL 04

BOU2200: PLANT PHYSIOLOGY

ASSESSMENT TEST 1 (NO BOOK TEST)

DURATION: ONE (01) HOUR



Registration No.

Date: 26/ 07/2015

Time: 10.30 am -11.30 pm

No. of questions: 04

ANSWER ALL QUESTIONS IN THE SPACE PROVIDED

01. (a) What are enzymes?

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(b) Mention 05 major classes of enzymes, with an example for each class

1.....

2.....

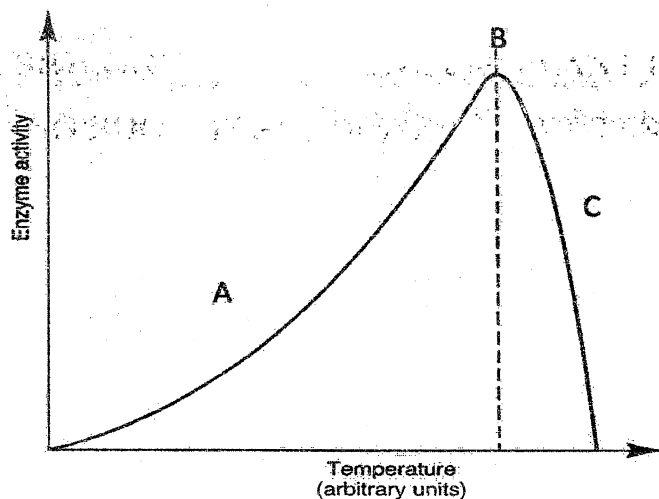
3.....

4.....

5.....

(c) This graph shows the effect of temperature on enzyme activity.

Describe how the temperature influences enzyme activity in A, B and C regions



A.....

B.....

C.....

02. (b) List 04 differences between photosynthesis and respiration

Photosynthesis	Respiration

c) Carotenoids are the most important group of accessory pigments present in plants.

Mention 02 functions of carotenoids in plants

1.....

2.....

d) What is the major anatomical difference that you can find between C_3 and C_4 plant leaves.

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e) Mention a plant species that carry out each of these photosynthesis mechanisms

Photosynthesis mechanism	Plant species
C_3	
C_4	
CAM	

f) Mention 03 differences between C_3 and C_4 photosynthesis

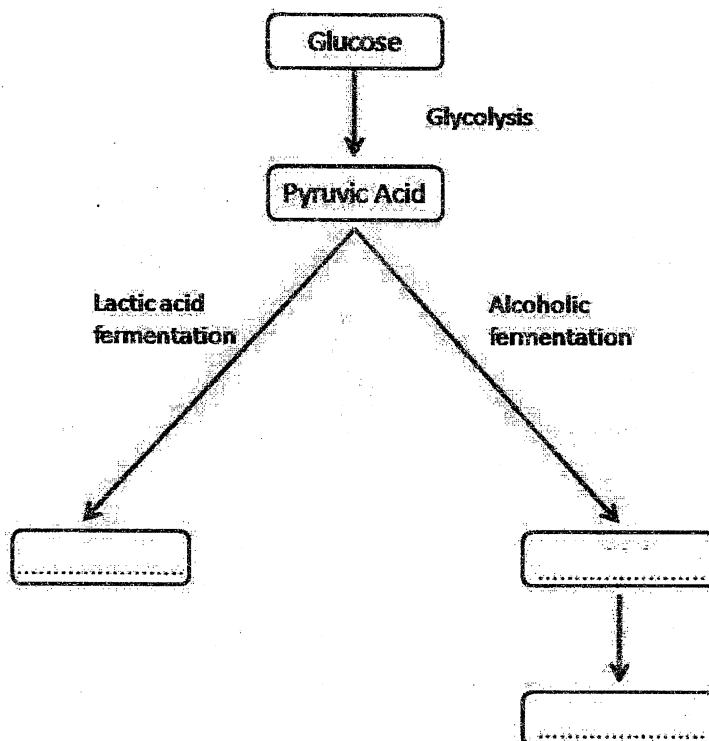
C_3	C_4

03. a) Define the term "fermentation"

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b) Fill in the blanks, of the following flow chart, which shows the fermentation process



c) What are the enzymes involved in lactic acid fermentation and alcoholic fermentation

Lactic acid fermentation -

Alcoholic fermentation -

d) Mention 04 main factors which influences the rate of respiration

- 1.....
- 2.....
- 3.....
- 4.....

4. a) What is “ Biological Nitrogen Fixation”?

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b) Mention two microorganisms involved in, non symbiotic nitrogen fixation and symbiotic nitrogen fixation process

N fixation process	Microorganism
Non symbiotic nitrogen fixation	1..... 2.....
Symbiotic nitrogen fixation	1..... 2.....

c) What is the enzyme involved in biological nitrogen fixation ?

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d) Describe the significance of leghemoglobin in nitrogen fixation

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e. Mention 04 major reactions which are important in N utilization by plants, and mention the relevant enzyme for each reaction

Reaction	Enzyme
1.	
2.	
3.	
4.	