Course specification

University/Academy: Damanhour
Faculty/Institute: Science
Department: Botany

1. course Data:

<table>
<thead>
<tr>
<th>Course code: Bot(407)</th>
<th>Course title: plant physiology(3)</th>
<th>Academic year/level: 2010/2011 4th year students / 1st term</th>
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| Specialization: SPECIAL BOTANY | No. of instructional units: lecture 2 practical 3 |

2. course Aim

1. -Overall Aims of Course:
By the end of the course, students will be able to:
- Realize the principles of plant metabolism.
- Understand energy transformations and realize the types of organic acid metabolism---------

3. Intended learning outcome

a) Knowledge and understanding
By the end of the course, students will be able to:
A1: Illustrate the significant differences between catabolic, anabolic and amphibolic process.
A2: Describe the enzymes and coenzymes.
A3: List the special enzymes for every reaction in metabolic pathway.
A4: Mention energy transformations.

b) Intellectual skills
By the end of the course, the students are expected to develop higher order skills that are reflected in their ability to:
B1: Differentiate between catabolic, anabolic and amphibolic process.
B2: Analysis the structural and the functional specialization of metabolic pathways.
B3: Conclude the principles of metabolic regulation.
B4: Evaluate the relations of organic acid metabolism to plant growth.
B5: Compare between the rate of reactions of
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<td>different metabolic reactions.</td>
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| **c) Professional skills** | By the end of the course, students will be able to:  
C1: Demonstrate the main features of metabolic regulation.  
C2: Use the experiments to demonstrate the importance of enzymes in metabolism.  
C3: Explain the main features of usage of organic acid metabolism |
| **d) General skills** | By the end of the course, students will be able to:  
D1: Exchange ideas, principles and information by oral, written and visual means.  
D2: Work effectively both in a team and independently.  
D3: Using the information technology to gather information and right reports.  
D4: Apply the basic knowledge of in handling and interpreting information. |
| **4. course content** | 1-Introduction in Plant metabolism  
2- Principles of organic acid metabolism  
3-Types of organic acid metabolism.  
4-metabolic regulation |
| **5. Teaching and learning methods** | Lectures and seminars.  
Lab work.  
Problems.  
Short reports. |
| **6. teaching and learning methods for students with special needs** |   |
| **7. Student Assessment** | Quizzes.  
Mid term exam.  
Practical exam.  
Final term exam |
| **a) Procedures used:** | Data show, overhead projector, simple microscopes, compound light microscopes and some prepared slides for botany samples |
### b) Schedule:
- Assessment 1: Quizzes  Week: 4-7
- Assessment 2: Mid term exam  Week: 8
- Assessment 3: Practical exam  Week: 15
- Assessment 4: Final term exam  Week: 16

### c) Weighing of Assessment:

<table>
<thead>
<tr>
<th>Assessment</th>
<th>Weight</th>
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<tbody>
<tr>
<td>Mid-Term Examination</td>
<td>10</td>
</tr>
<tr>
<td>Final Term Examination</td>
<td>100</td>
</tr>
<tr>
<td>Practical Examination</td>
<td>30</td>
</tr>
<tr>
<td>Semester Work</td>
<td>10</td>
</tr>
<tr>
<td>Other types of assessment</td>
<td>-</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>150</strong></td>
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### 8. List of Textbooks and References:

- **Course Notes**
  - Advanced Plant physiology
  - Biochemistry and physiology of polyamines in plants
    By Robert D. Slocum, Hector E. Flores.

- **a) Course Notes**
- **b) Required Books (Textbooks)**
- **c) Recommended Books**
- **d) Periodicals, web sites, etc**
  - Web Sites, etc
  - [www.Plant physiology.com](http://www.Plant physiology.com)

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**Course Instructor:**

**Date:**

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**Head of Department:**

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