



The Islamia University of Bahawalpur

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DEPARTMENT OF BOTANY Tentative Course Plan

Class:

Semester-

Session:

Instructor	Iqra Khadim		Email: ikhadim179@gmail.com	
Course Title	Plant physiology-I		Program	BS (6 TH Semester)
Course Number	BOTA-01604		Credit Hours	3(2+1)
Lectureday: period (00:00a.m to 00: 00a.m), Room# 00			
Course Objective:				
Methods of Teaching				
<ul style="list-style-type: none"> Assigned readings Group activities & Discussion Audiovisual aids lectures Web-assisted instruction Student-Directed Teaching 				
Resource Material	1. Text Books			
	i. "Plant Physiology: The Structure of Plants Explained (Study mates in Focus)" by Dr Graham Lawler and Edwin Oxlade			
	2.Reference Books		3.Research Papers	
	i	Plant Science: Biology Advanced Studies" by Dennis Hill-Cottingham and Pat Hill-Cottingham	i	
	li		ii	
	4.Hot Research Papers		5.Web Resources	
i		i		
li		ii		
Office Help Hours				
Grading				
Exam (Date to be announced) Mid- Exam (30%) Final Exam (50%) Problem Session/Assignments (20%)				
Problem Session				
.....day: 00 and 00 periods (0:00-00:00am), Room# 00				
SEQUENCE OF TOPICS TO BE COVERED				
Lecturer #	Topics (outline of main topics and sub topics)	Chapter #	Tutorial /Laboratory	
1	Introductory Lecture to the Subject			
2	. Photosynthesis, History of photosynthesis	. Photosynthesis	Preparation of standard solution	
3	Nature and unit of light, Determination of oxygenic and an oxygenic photosynthesis			
4	Ultrastructure of thylakoid vesicle, various pigments and photosynthetic activity			
5	Ultrastructure and composition of composition of photosynthesis I-II		Determination of the volume of CO ₂ evolved during respiration by plant material	
6	Absorption and action spectra of different pigments, Mechanism of photosynthesis- light			

	absorption charge separation		
7	Electron and proton transport through thylakoid protein, pigment complexes		
8	Photophosphorylation and its mechanism, CO ₂ reduction		Determination of the amount of O ₂ used by respiring water by Wrinkle method
9	C ₃ pathway and photorespiration		
10	Regulation of C ₃ and C ₄ pathway and its different forms		
11	C ₃ -C ₄ intermediates, CAM pathway		
12	Methods of measurement of photosynthesis		Separation of chloroplast pigments on column chromatogram and their quantification by spectrophotometer
13	Respiration, synthesis of hexose sugar from reserve carbohydrates	Respiration	
14	Mechanism of respiration-Glycolysis		
15	Difference between cytosolic and chloroplast glycolysis		
16	Oxidative decarboxylation, Krebs cycle		
	Mid Term Exam	Course/Discussion from session 1 to 16	
17	Regulation of glycolysis and Krebs cycle		Extraction and separation of anthocyanin and other phenolic pigments from plant material
18	Electron transport and oxidative phosphorylation		
19	Aerobic and anaerobic respiration, energetics of respiration		
20	Pentose phosphate pathway Glyoxlate cycle		Categorization of C ₃ and C ₄ plants through their anatomical and physiological character
21	Cyanide resistant respiration		
22	Translocation of food	Translocation of food	
23	Pathway of translocation, source and sink interaction		
24	Materials translocated		
25	Mechanism of phloem transport, loading and unloading		
26	Leaves and atmosphere	Leaves and atmosphere	
27	Gaseous exchange		-
28	Mechanism of stomatal regulation		-

29	Assimilation of nitrogen, Sulphur and phosphorus	Assimilation of nitrogen, Sulphur and phosphorus	Regulation of stomatal opening by light of different colors and PtL
30	Nitrogen cycle, Nitrogen fixation		
31	Pathway of assimilation of nitrate and ammonium ions		
32	Assimilation of Sulphur and Phosphorus		
	Final Term Exam	Course/Discussion from session 1- 32	

Student Evaluation criteria:

Attendance	5%
Workshop / Assignments/Case study	5%
Surprise Test/Sudden Test , Quizzes	5%
Class Participation	5%
Mid Term Paper	30%
Final Term paper	50%
Total	100%

Student Responsibilities:

Students must attend class. Failure to attend class may result in failure in the course. Students must also arrive on time and remain in class for the entire period. Cellular Phones and Beeper must be Turned off (Proper classroom decorum [behavior] adopts, Course outlines and calendars explain requirements and assignments, students are responsible for knowing what they say. Students are also responsible for doing all assigned work on time. Excessive absences (more than 03) will result in "F Grade".

Instructor / Tutor

Approved by:

Chairman