LESSON PLAN

Ms nidhi jain assistant professor

BSc medical pass course

BOTANY 6TH SEMESTER

BIOCHEMISTRY AND PLANT BIOTECHNOLOGY (6.1)

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| Week 1  Unit 1 biochemistry |
| asssignments |
| Week 1 ,day 1,1/1/18   * 1.1.1 intro of enzymology |
| Week 1 ,day 2,2/1/18   * 1.1.2 Basics of enzymology |
| Week 1 ,day 3,3/1/18   * 1.1.3 Discovery |
| Week 1 ,day 4,4/1/18   * 1.1.4 Nomenclature of enzymes |
| Week 1 ,day 5,5/1/18   * 1.1.5 Characteristics of enzymes |
| Week 1 ,day 6,6/1/18   * 1.2.1 Concept of holoenzyme and co-factors |
| Week 2  Unit 1 biochemistry |
| assignments |
| Week 2, day 1, 8/1/18   * 1.3.1 Apoenzyme * 1.4.1 Coenzyme |
| Week 2, day 2, 9/1/18   * 1.5.1 cofactors |
| Week 2, day 3, 10/1/18   * 1.1.6 Regulation of enzyme activity * 1.6.1 allosteric modulators |
| Week 2, day 4, 11/1/18   * 1.6.2 competitive inhibitors * 1.6.3 non competitive inhibitors |
| Week 2, day 5, 12/1/18   * 1.6.4 feedback inhibitors |
| Week 2, day 6, 13/1/18   * 1.7.1 Mechanism of action * 1.8.1 models * 1.9.1 kinetics of enzyme action |
| Week 3,  Unit 2 Respiration |
| assignments |
| Week 3, day 1,15/1/18   * 2.1.1 intro of respiration * 2.1.2 charecteristics |
| Week 3, day 2,16/1/18   * 2.2.1 ATP * 2.2.2 the biological energy currency |
| Week 3, day 3,17/1/18   * 2.3.1 types of respiration * 2.3.2 organelle for aerobic respiration |
| Week 3, day 4,18/1/18   * 2.3.3 RQ * 2.3.4 RESPIRATION QUOTIENT |
| Week 3, day 5,19/1/18   * 2.3.5 FACTORS affecting rate of respiration * 2.3.6 internal and external factors |
| Week 3, day 6,20/1/18   * 2.4.1 Mechanism of respiration |
| Week 4,  Unit 2 respiration |
| assignments |
| Week 4,day 1, 22/1/18   * 2.4.2 glycolysis |
| Week 4,day 2, 23/1/18   * 2.4.3 anaerobic respiration |
| Week 4,day 3, 24/1/18   * 2.5.1 kreb’s cycle |
| Week 4,day 4, 25/1/18   * 2.5.2 TCA cycle significance |
| Week 4,day 5, 26/1/18   * Republic day |
| Week 4,day 6, 27/1/18   * 2.6.1 electron transport mechanism |
| Week 5  Unit 2 respiration |
| assignments |
| Week 5, day1 , 29/1/18   * 2.6.2 redox potential |
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| Week 5, day3 , 31/1/18   * 2.8.1 pentose phosphate pathway |
| Week 5, day4 , 1/2/18   * 2.8.2 its significance |
| Week 5, day5 , 2/2/18   * 2.8.3 its differences |
| Week 5, day6 , 3/2/18   * Review of whole unit |
| Week 6  Unit 3 lipid metabolism |
| assignments |
| Week 6, day 1, 5/2/18   * 3.1.1 structure of lipids * 3.1.2 classification of jipids |
| Week 6, day 2, 6/2/18   * 3.1.3 functions of lipids |
| Week 6, day 3, 7/2/18   * 3.2.1 fats * 3.2.2 biosynthesis of fatty acids |
| Week 6, day 4, 8/2/18   * 3.2.3 biosynthesis of glycerol |
| Week 6, day 5, 9/2/18   * 3.3.1 beta oxidation * 3.3.2 breakdown of fatty acids and glycerol |
| Week 6, day 6, 10/2/18   * 3.4.1 saturated and unsaturated fatty acids |
| Week 7  Unit3 nitrogen metabolism |
| assignments |
| Week 7 ,day 1,12/2/18   * 3.5.1 storage and metabolism of fatty acids * 3.5.2 glyoxylate cycle |
| Week 7 ,day 2,13/2/18   * 3.6.1 nitrogen metabolism * 3.6.2 sources of nitrogen |
| Week 7 ,day 3,14/2/18   * 3.6.3 biology of nitrogen fixation |
| Week 7 ,day 4,15/2/18   * 3.6.4 biochemistry of nitrogen fixation * 3.6.5 importance of nitrate reductase |
| Week 7 ,day 5,16/2/18   * 3.6.6 its regulation |
| Week 7 ,day 6,17/2/18   * 3.6.7 ammonium assimilation |
| Week 8  Unit 4 genetic engineering and biotechnology |
| Week 8, day 1, 19/2/18   * 4.1.1 tools and techneques for DNA RECOMBINANT TECHNOLOGY |
| Week 8, day 2, 20/2/18   * 4.1.2 SOURCES of foreign DNA |
| Week 8, day 3, 21/2/18   * 4.1.3 cioning vectors |
| Week 8, day 4, 22/2/18   * 4.1.4 genomics and cDNA library |
| Week 8, day 5, 23/2/18   * 4.1.5 Transposable elements |
| Week 8, day 6, 24/2/18   * 4.1.6 techneques |
| Week 9  Unit 4 plant tissue culture |
| Week 9,day 1,26/2/18   * 4.2.1 aspects of plant tissue culture |
| Week 9,day 2,27/2/18   * 4.2.2 cellular totipotancy and differentiation |
| Week 9,day 3,28/2/18   * 4.2.3 morphogenesis |
| Week 9,day 4,1/3/18   * 4.2.4 biology of agro bacterium |
| Week 9,day 5,2/3/18   * 4.2.5 vectors for gene dilivery |
| Week 9,day 6,3/3/18   * 4.2.6 market genes |
| Week 10  Sessional 1 for ppr 1 5/3/18 to 10/3/18 |
| Week 11  **Ppr 2 , economic botany(6.2)**  **Unit 1** |
| Assignments |
| Week 11,day1, 12/3/18   * 1.1.1 Vavilov’s center of origin of crop plants |
| Week 11,day2, 13/3/18   * 1.2.1 origin,distribution,botanical description,of cereals * 1.2.2 brief idea of cultivation and economic uses of cereals |
| Week 11,day3, 14/3/18   * 1.2.3 origin,distribution,botanical description,of pulses * 1.2.4 brief idea of cultivation and economic uses of pulses |
| Week 11,day4, 15/3/18   * 1.2.5 origin,distribution,botanical description,of vegetables |
| Week 11,day5, 16/3/18   * 1.2.6 brief idea of cultivation and economic uses of vegetables |
| Week 11,day6, 17/3/18   * 1.2.7 food plants review |
| Week 12  Unit 2 fiber and oils |
| assignments |
| Week 12,day 1, 19/3/18   * 2.2.1 origin,distribution,botanical description,of cotton * 2.2.2 brief idea of cultivation and economic uses of cotton |
| Week 12,day 2, 21/3/18   * 2.2.3 origin,distribution,botanical description,of jute * 2.2.4 brief idea of cultivation and economic uses of jute |
| Week 12,day 3, 22/3/18   * 2.2.5 origin,distribution,botanical description,of flax * 2.2.6 brief idea of cultivation and economic uses of flax |
| Week 12,day 4, 23/3/18   * 2..3.1 origin,distribution,botanical description,of groundnut(oil) * 2.3.2 brief idea of cultivation and economic uses of groundnut |
| Week 12,day 5, 24/3/18   * 2.3.3 origin,distribution,botanical description,of musturd * 2.3.4 brief idea of cultivation and economic uses of musturd |
| Week 12,day6,, 25/3/18   * 2.3.5 origin,distribution,botanical description,of sunflower * 2.3.6 brief idea of cultivation and economic uses of sunflower |
| Week 13  Unit 3 spices ,medicinal plants |
| Assignments |
| Week 13, day1,27/3/18   * 2.3.7 origin,distribution,botanical description,of coconut * 2.3.8 brief idea of cultivation and economic uses of coconut |
| Week 13, day2,28/3/18   * 3.1.1 morphological description,brief idea of cultivation, and economic uses of coriander |
| Week 13, day3,29/3/18   * 3.1.2 morphological description,brief idea of cultivation, and economic uses of ferula ginger |
| Week 13, day4,30/3/18   * 3.1.3 morphological description,brief idea of cultivation, and economic uses of turmeric |
| Week 13, day5,31/3/18   * 3.1.4 morphological description,brief idea of cultivation, and economic uses of cloves |
| Week 13, day6,1/4/18   * 3.2.1 morphological description,brief idea of cultivation, and economic uses of cinchona |
| Week 14  Unit 3 medicinal plant |
| assignment |
| Week 14, day1,3/4/18   * 3.2.2 morphological description,brief idea of cultivation, and economic uses of Rauwolfia |
| Week 14, day2,4/4/18   * 3.2.3 morphological description,brief idea of cultivation, and economic uses of Atropa |
| Week 14, day3,5/4/18   * 3.2.4 morphological description,brief idea of cultivation, and economic uses of Opium |
| Week 14, day4,6/4/18   * 3.2.5 morphological description,brief idea of cultivation, and economic uses of cannabis |
| Week 14, day5,7/4/18   * 3.2.6 morphological description,brief idea of cultivation, and economic uses of Azadiracha |
| Week 14, day6,8/4/18   * 3.2.7 morphological description,brief idea of cultivation, and economic uses of Withania |
| Week 15  Unit 4 beverages,rubber ,sugar |
| assignments |
| Week 15, day1,10/4/18   * 4.1.1 botanical description,processing and uses of tea |
| Week 15, day2,11/4/18   * 4.1.2 botanical description,processing and uses of coffee |
| Week 15, day3,12/4/18   * 4.2.1 botanical description,processing and uses of Hevea |
| Week 15, day4,13/4/18   * 4.3.1 botanical description,processing and uses of sugarcane |
| Week 15, day5,14/4/18   * 4. 4.1 sourses of timber and general account of timber |
| Week 15, day6,15/4/18   * 4. 4.2 sourses of timber and general account of plantations and biofuels |
| 16/4/18 to 18/4/18  revision |
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