Reg. **No**.....

SIXTH SEMESTER B.Sc. DEGREE EXAMINATION, MARCH/APRIL 2016

(UG—CCSS)

Core Course—Botany

BO 6B 09—PLANT PHYSIOLOGY, METABOLISM AND BIOCHEMISTRY

(2012 Admission onwards)

Time : Three Hours Maximum : 30 Weightage

I. Answer *all* questions :

Choose the correct answer :

1 Statolyths are associated with :

(Phototropism, Geotropism, Hydrotropism, Photoperiodism)

2 PEP is the primary carbon acceptor in :

(C_3 cycle only, **C_4** cycle only, CAM pathway only, **C_4** and CAM pathway)

3 End product of glycolysis is :

(Pyruvic acid, Acetyl Co enzyme A, Co enzyme A, Citric acid)

4 Glyceraldehyde is a:

(Aldo triose, Keto triose, Aldo tetrose, Keto tetrose)

Fill in the blanks :

5 Red drop and enhancement effect lead to the discovery of ____

6 SPAC stands for _____

7 Chemi Osmotic theory was proposed by _____

8 The protein present in hair and nail is _____

Answer in a single word :

9 Name the enzyme which catalyses the uptake of CO_2 by RUBP ?

10 Name a plant growth retardation hormone.

11 Name the process used to convert unsaturated fatty acids to saturated fatty acids for better stability and storage ?

12 Name the chemical used to detect the presence of amino acids ?

(12 x ¼ 3 weightage)

Turn over

II. Answer *all* questions - short answer :

13 Describe chlorophyll flurescence. What is its significance ?

14 Briefly describe the process of seed germination.

15 Write down the drawbacks of RUBISCO.

16 Explain Phloem loading and unloading.

17 Explain the action of glyphosate as a weedicide.

18 What are co-enzymes? Explain their role..

19 Differentiate between starch and glycogen.

20 Explain peptide bond formation.

21 What are triglycerides ? Explain their role.

(9 x 1 = 9 weightage)

III. Answer any *five* questions - short essay :

22 Explain photorespiration in plants. What is its significance ?

23 Describe the pressure flow hypothesis to explain the process of phloem transloca

24 Describe ecological significance of C_4 and CAM pathway.

25 What are uncouplers ? Explain their effect on terminal oxidation.

26 Briefly explain the biosynthesis of saturated fatty acids in plants.

27 Describe the three dimensional structure of proteins.

28 Write an account on the classification of amino acids.

(5 x 2 = 10 we age)

IV Answer any *two* questions - essay :

29 Describe photoperiodism ? Explain the role of phytochrome on photoperiodisn

30 Describe the structure and function of nucleotide and nucleotide derivatives.

31 Describe the steps in the β oxidation of fatty acids. What is its significance ?

(2 x 4 = 8 e htage)