



HBY-1016

Seat No. _____

B. Sc. (Sem. IV) Examination

April / May - 2015

Biotechnology : Paper - V

(Cellular Metabolism - II)

(Core Compulsory Course)

Time : 3 Hours]

[Total Marks : 70

1 MCQ

1. Drug O inhibits comple I of ETS while drug P inhibits complex II of ETS. Which drug is more harmful to an organism?
 - A Drug O
 - B Drug P
 - C Both will be equally harmful
 - D This inhibition can not harm an organism

2. When there is higher temperature and water scarcity which plant type show better growth?
 - A. C3
 - B. C4
 - C. These factors can not affect growth
 - D. Both A and B

3. Active transport is _____
 - A. against concentration gradient
 - B. In the direction of concentration gradient
 - C. Does not require protein
 - D. Both A and C

4. What is location of beta oxidation in bacteria?
- A. Mitochondrial matrix
 - B. Cytoplasm
 - C. Chloroplast stroma
 - D. Cell membrane
5. Transamination
- A. concentrate amino group in a form of glutamate.
 - B. uses TPP as a coenzyme
 - C. Separate transaminase for separate amino acid
 - D. All of the above.
6. Chloroplast does maximum absorption of _____ and _____ light
- A. blue, red
 - B. Blue, orange
 - C. Blue, yellow
 - D. Red, orange
7. Which is intermediate metabolite during adenine and guanine biosynthesis?
- A. Inosine
 - B. Orotate
 - C. Urasil
 - D. Furan
8. How many glycine molecules are required to synthesize 40 serine during photorespiration?
- A. 40
 - B. 20
 - C. 80
 - D. 120

9. What is location of urea cycle enzymes?
- A. Mitochondrial matrix
 - B. Cytoplasm
 - C. Mitochondrial inner membrane
 - D. A and B both
10. PMF depends upon
- A. difference in pH across membrane
 - B. difference in charge across membrane
 - C. Ability of proton to move proten machinery
 - D. A and B both

2 Write down short note on following (any **five**) **30**

- 1. Transamination
- 2. Cyclic photophosphorylation
- 3. Complex III of ETS
- 4. Faty acid biosynthesis
- 5. Photorespiration
- 6. Active transport
- 7. Ornithine cycle

3 Give an detailed account on any **three** **30**

- 1. Photophosphorylation in higher plants
- 2. Signal transduction pathways.
- 3. Faty acid biosynthesis.
- 4. Explain synthesis of ATP by ATP synthase coupled to formation of proton gradient.
- 5. Amino acid biosynthesis.