



**KERALA AGRICULTURAL UNIVERSITY**  
**B.Tech.(Food Engg.)**  
**II Semester Re- Examination-October 2021**  
**2019 Admission**

**Fdqu.1201**

**Fundamentals of Biochemistry (2+1)**

**Marks: 50**  
**Time: 2 hours**  
**(10x1=10)**

**I Fill up the blanks**

1. Hydrolysis of lactose yields .....
2. The primary structure of protein is maintained by ..... bond
3. In mixed inhibition inhibitor binds on ..... site of an enzyme.
4. The key enzyme in the regulation of fatty acid synthesis is.....
5. The enzymes of the TCA cycle in a eukaryotic cell are located in the .....

**State True or False**

6. Sugar present in milk is maltose.
7. Unfolding of protein is known as denaturation.
8. Enzymes provide activation energy for reactions.
9. Fatty acid synthesis takes place in mitochondria.
10. Glucose 6-phosphatase is present only in epithelial tissues.

**II Write short notes on ANY FIVE of the following**

**(5x2=10)**

1. Mutarotation
2. Caramelization
3. Annealing
4. Non essential amino acids
5. Saturated fatty acids
6. Energy free of activation
7. Ketosis

**III Answer ANY FIVE of the following.**

**(5x4=20)**

1. Explain in detail about non enzymatic browning reaction.
2. Differentiate amylose and amylopectin.
3. Classify proteins and explain in detail on conjugated proteins.
4. Importance of rancidity in food products.
5. Factors affecting enzyme action.
6. Role of omega 3 fatty acids in human health.
7. Nutritional value of meat proteins.

**IV Write an essay on ANY ONE of the following**

**(1x10=10)**

1. Write in detail about the different structures of proteins.
2. Explain how  $\beta$  oxidation of fatty acids occurs and calculate the ATP production when one molecule of palmitic acid is oxidized

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