Shahjalal University of Science and Technology
Department of Biochemistry and Molecular Biology
2nd year 1st semester Metabolism-I: Midterm-II
Time 1 hr; Full marks: 10

Write down if the statements are true or false; if false give the correct answer **10*0.3=3.0**

1. All the fatty acid in mammals are of even number
2. TG's are the major fuel store in the body
3. Chylomicrons are formed in the live in fasting condition
4. In mammals double bond can be added beyond C9
5. In fasting condition Glycerol 3- Phosphate can be synthesized by glyceroneogenesis
6. Fatty acid can cross blood brain barrier and can be used by brain
7. Acetyl CoA Carboxylase is an inhibitor of CPT I
8. NAD and FAD is involved in fatty acid biosynthesis whereas NADP is involved in breakdown
9. HMG CoA for cholesterol biosynthesis and beta oxidation are same
10. Phytanic acid is a branched chain amino acid

Fill in the blanks with appropriate word **10*0.3=3.0**

1. _____ and _____ acids are essential fatty acid
2. _____catalyzes the rate limiting step of fatty acid biosynthesis
11. _____, _____ and _____are cumulatively known as ketone bodies
12. Energy yield per gram of stored TG is about _____times that of hydrated glycogen
13. _____ act as a cofactor in acetyl-CoA Carboxylase
14. Complete oxidation of palmitic acid provides _____ATP
15. Acyl CoA dehydrogenase use _____as cofactor

Explain the statements **1.0+1.5+1.5=4.0**

a. Formation of malonyl CoA is the commitment step of fatty acid synthesis
b. Beta oxidation is a sequence of four reactions
c. Ketone bodies are formed from acetyl CoA