

**First Year M.Sc. MLT Degree Examinations November 2017**  
**(Biochemistry)**

PAPER – IV GENERAL PHYSIOLOGY, NUTRITION & MINERAL METABOLISM

**Time : 3 hrs.**

**Max. marks : 100**

- *Answer all questions*
- *Draw diagrams wherever necessary*

**Essays:**

**(10x10 = 100)**

1. Explain the digestion and absorption of lipids.
2. What is basal metabolic rate. Explain the influence of various factors on basal metabolic rate
3. Explain the biochemistry of muscle contraction (2+8)
4. Explain the oxygen transport. Add a note on oxygen dissociation curve and Bohr's effect.
5. Explain lactose tolerance and Wilson's disease (5+5)
6. Explain nitrogen balance and kwashiorkor (5+5)
7. What are free radicals and reactive oxygen species. Explain its detrimental effects on lipids. Add a note on the role of glutathione peroxidase. (2+2+4+2)
8. Explain the absorption, transport and functions of iron. (3+3+4)
9. What is meant by detoxification. Mention the phases of detoxification, naming the reactions. Explain the role of cytochrome P 450 in detoxification (2+4+4)
10. Explain the functions of sodium and potassium. Mention the causes of hypokalemia and hyponatremia (3+3+2+2)

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