

**NATIONAL UNIVERISTY OF SCIENCE AND TECHNOLOGY**

**FACULTY OF MEDICINE**

**BACHELOR OF MEDICINE AND BACHELOR OF SURGERY DEGREE**  
**PART 1 EXAMINATIONS**

**MBM 1201 : DIGESTION AND NUTRIENT METABOLISM**

**DATE : MAY 2006**

**TIME : 3 HOURS**

**Instructions to Candidates**

**Answer all questions**

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**SECTION A**

1. Describe the regulation of glycolysis. (20)
  2. Write an essay on the digestion and absorption of lipids and clearly outline the lipid malabsorption syndromes. (20)
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**SECTION B**

3. What is the metabolic relevance of each of the following:
  - (a) the Cori cycle (4)
  - (b) pyruvate dehydrogenase (4)
  - (c) ATP synthase (4)
  - (d) thermogenin (4)
  - (e) anaplerotic reactions? (3)

4. Briefly, explain the toxicity of the following compounds:
- (a) 2,4 – dinitrophenol (2)
  - (b) hydroxycinnamate (2)
  - (c) atractyloside (2)
  - (d) ammonia. (2)
5. Concisely, explain the utilization of a named compound to alleviate hyperammonemia. (3)
6. Explain the following terms:
- a) basal metabolic rate. (2)
  - b) facultative thermogenesis. (2)
7. Clearly explain **one** biochemical function of the following vitamins in humans
- a) Vitamin A (2)
  - b) Vitamin C (2)
  - c) Panthothenic acid. (2)
8. Why is there a tendency of gall stone formation in obese individuals? (1)
9. What causes diarrhoea in severely malnourished children. (3)
10. Briefly, describe the regulation of gastric acid and pepsin secretion. (3)
11. How does gall the bladder concentrate bile? (2)
12. Briefly, explain the carbohydrate malabsorption syndromes. (4)
13. Describe the systems involved in amino acid absorption. (3)
14. Explain the following terms:
- a) haemochromatosis (2)
  - b) cretinism. (2)

**END OF EXAMINATION**