

OLABISI ONABANJO UNIVERSITY

DEPARTMENT OF BIOCHEMISTRY

2012/2013 RAIN SEMESTER EXAMINATION

COURSE CODE: BCH 314

TIME ALLOWED: 2Hours

COURSE TITLE: NUTRITIONAL BIOCHEMISTRY DATE: 15TH MAY, 2014

INSTRUCTION: ANSWER FOUR (4) QUESTIONS ONLY.

1. (a) What is nutrient requirement?

(b) How can you estimate nutrient requirement?

2. (a) Describe the synthesis of a named "Vitamin"

(b) What is the biochemical function and the deficiency of the vitamin mentioned in 2a.

3. (a) If the energy cost of pregnancy is assumed to be 80,000 Kcal.

i. What will be the average energy required per day for the pregnancy?

ii. If glucose is the only source of energy, how much grams of glucose will she require to sustain her?

4. Write short notes on:

(i) BMI

(ii) BMR

(iii) Energy Value

(iv) Nutritional Disorders

5. With a named example, write a comprehensive note on an essential mineral, highlighting its functions, absorption, metabolism and deficiency.

The energy cost of pregnancy = 80,000 kcal

Energy =

$$C_6H_{12}O_6 = 12 \times 6 + 1 \times 12 + 16 \times 6 \\ = 72 + 12 + 96 \\ = 180$$

$$(180g \text{ of glucose} \times 24 \text{ hrs}) = 4320g \text{ of glucose}$$

$$\frac{80,000}{24} = 3333.33$$

$$\frac{80,000}{180} = 444.44$$