

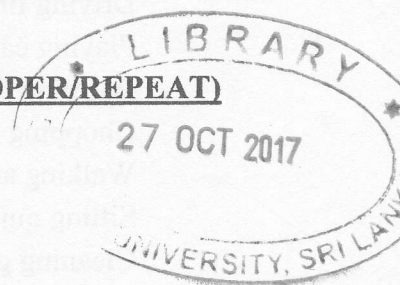
EASTERN UNIVERSITY, SRI LANKA

THIRD YEAR, FIRST SEMESTER EXAMINATION IN AGRICULTURE -2014/2015

AC 3102- HUMAN NUTRITION (2 :20/20)

END SEMESTER EXAMINATION (JAN/FEB: 2017 -PROPER/REPEAT)

PRACTICAL EXAMINATION



Time Allowed: 02 Hours

Answer all questions

- 1) Mr. Ravi is a Management Assistant who is working in the building department. He is a large frame with 81kg weight and 5' 4" tall.
 - a) What is his ideal body weight range?
 - b) Calculate his percent ideal body weight (%IBW).
 - c) Calculate his body mass index(BMI).
 - d) Comment on his present nutritional status in relation to BMI and suggest the plans to overcome it.

- 2) Mrs. Sriyani is a 49 years old lady, who is 1.58m of height and 59 kg of weight. she is having 3 sons. Sriyani usually prepare food for breakfast and lunch, and buy takeaways for dinner. Her average physical activity factoris 1.7.
 - a) Comment on Sriyani's body weight.
 - b) Calculate her Basal Metabolic Rate (BMR).
 - c) Calculate the Sriyani's Total Daily Energy Expenditure (TDEE/TEE) in kcal/day.
 - d) Prepare a diet plan for her TEE.

- 3) A researcher plan to assess the average physical activity factor of a male by using his physical activity diary. Summary of the physical activities of a 37 years old male, his weight is 71kg and height is 168.3cm is given below.
 - Sleeping for 6hrs (met- 1)
 - Carpentry work for 8 hrs (met-3.5)
 - Milking cows by hand for 2 hrs (met -2.5)

- Driving fir 2 hrs (met-1.4)
- Playing cards for 1hr (met -1.4)
- Washing clothes for 0.5 hr (met -2.2)
- Chopping fire woods for 1hr (met -4.1)
- Walking around for 1 hr (met- 2.4)
- Sitting quietly for 1.5 hrs (met 1.2)
- Cleaning ground for 1 hr (met 3.8)

- a) Calculate the body mass index BMI) of the above man.
- b) Calculate his Basal Metabolic Rate BMR).
- c) Calculate the total energy expenditure in kcal/kg/hr.
- d) Calculate the average physical activity factor and comment the result.

4) a) Distinguish the term “Junk Food” from “Nutritious Food”.

b) The energy and other nutrients content of a standard piece of a food item is given below. Using the given data find out whether it is a junk food or a nutritious food.

Nutrient	Quantity (per 100g)	RDA
Energy(kcal)	512	2500
Protein (g)	23.43	55
Vit A(μg)	646	750
Vit D(μg)	12.53	2.5
Vit C (mg)	11.67	40
Vit B1(mg)	0.16	0.6
Vit B2(mg)	1.44	1.8
Vit B6(mg)	0.2	2
Vit B12(μg)	2.45	1
Ca(mg)	888.67	800
P(mg)	759	550
Mg(mg)	76.13	49
Folic acid(μg)	2.62	200

Energy Expenditure (Harris- Benedict equation)

Male - $BMR = 66.5 + 13.7x \text{ wt (kg)} + 5.0x \text{ ht (cm)} - 6.75x \text{ age (yr)}$

Female - $BMR = 655.1 + 9.5x \text{ wt (kg)} + 1.85x \text{ ht (cm)} - 4.67x \text{ age (yr)}$

- Driving fir 2 hrs (met-1.4)
- Playing cards for 1hr (met -1.4)
- Washing clothes for 0.5 hr (met -2.2)
- Chopping fire woods for 1hr (met -4.1)
- Walking around for 1 hr (met- 2.4)
- Sitting quietly for 1.5 hrs (met 1.2)
- Cleaning ground for 1 hr (met 3.8)

- a) Calculate the body mass index BMI) of the above man.
- b) Calculate his Basal Metabolic Rate BMR).
- c) Calculate the total energy expenditure in kcal/kg/hr.
- d) Calculate the average physical activity factor and comment the result.

4) a) Distinguish the term “**Junk Food**” from “**Nutritious Food**”.

b) The energy and other nutrients content of a standard piece of a food item is given below. Using the given data find out whether it is a junk food or a nutritious food.

Nutrient	Quantity (per 100g)	RDA
Energy(kcal)	512	2500
Protein (g)	23.43	55
Vit A(μg)	646	750
Vit D(μg)	12.53	2.5
Vit C (mg)	11.67	40
Vit B1(mg)	0.16	0.6
Vit B2(mg)	1.44	1.8
Vit B6(mg)	0.2	2
Vit B12(μg)	2.45	1
Ca(mg)	888.67	800
P(mg)	759	550
Mg(mg)	76.13	49
Folic acid(μg)	2.62	200

Energy Expenditure (Harris- Benedict equation)

Male - $BMR = 66.5 + 13.7x \text{ wt (kg)} + 5.0x \text{ ht (cm)} - 6.75x \text{ age (yr)}$

Female - $BMR = 655.1 + 9.5x \text{ wt (kg)} + 1.85x \text{ ht (cm)} - 4.67x \text{ age (yr)}$

Food Items/100g	CHO(grams)	Protein(grams)	Fat(grams)
Pittu (rice flour)	55.2	6.2	14.4
Rice, parboiled, home pounded	77.4	8.5	0.6
Rice, highly milled, raw	78.2	6.8	0.5
Rotty(wheat flour)	42.9	6.9	15.5
String Hoppers(wheat flour)	66	9.3	1.3
Hoppers (rice flour)	58.2	5.6	11.2
Buns	65.3	7	2.3