



Uva Wellassa University
Faculty of Animal Science and Export Agriculture
B Sc in Tea Technology and Value Addition
End Semester Examination August/September 2014
Year III Semester II
Energy Management in Tea Processing - TEA 344-3



Instructions

Answer **all** questions.

No. of questions : Two (02)
No. of pages : Two (02)
Time : 1½ hours
Total marks allocated : 40%

Part II -ESSAY

Question 1

Total electricity consumption of the country in 2012 was 10024 GWh and out of that 60% consumed by industrial and commercial sector. Out of this segment the share of electricity consumption in tea industry is 5%. Approximately 65% of electricity generation is depending on the imported fossil fuel and it is badly affected to the energy security of the country. In this context improvement of energy utilization efficiency and promotion of renewable energy are two important factors.

What is the meaning of “sustainable use of energy” and explain your answer taking a tea factory as an example.

Question 2

Details of specific electricity consumption of a plantation company with 9 factories are given in the following table. Suppose you are an Energy Manager appointed for a plantation company, as per the energy manager/energy auditor regulation, published on 22nd July 2011.

Factory ID No	Jan	Feb	Mar	Apr	May	Jun	July	Aug	Sept	Oct	Nov	Dec
Up /Mid Country												
MF1	1.07	0.88	0.88	0.84	0.84	1.08	1.31	1.55	1.09	1.08	0.93	0.95
MF2	1.03	0.76	0.36	0.64	0.64	0.81	0.80	0.88	1.06	0.85	0.60	0.84
MF3	1.01	0.93	0.77	0.89	0.77	0.95	0.79	1.16	1.19	1.02	0.81	1.03
MF4	0.71	0.68	0.54	0.62	0.71	0.76	0.85	0.82	0.78	0.69	0.75	1.31
MF5	1.26	1.03	0.56	1.10	0.97	0.94	1.04	1.64	0.85	0.82	0.79	1.00
MF6	0.94	0.86	0.98		0.69	0.75	0.73	0.73	0.95	0.71	0.72	0.85
Low Country												
MF7	1.00	0.96	1.21	0.75	0.05	1.02	0.95	0.93	0.99	1.17	0.98	1.76
MF8	0.91	0.81	0.94	0.86	0.93	0.89	0.98	0.85	0.86	0.92	1.01	1.02
MF9	0.95	0.96	0.97	0.89	0.98	2.31					0.91	1.04

The management of the plantation company has decided to bring down the specific electricity consumption up to the national average and explain your future plan that is going to be implemented.