



Uva Wellassa University
Faculty of Animal Science & Export Agriculture
BSc in Tea Technology & Value Addition



End Semester Examination –March/April 2013
Year II Semester I

Fundamentals of Biochemical Engineering (TEA 221-2)

Instructions

Answer **all** questions

No. of questions : One (01)

No. of pages : One (01)

Time : Thirty (30) minutes

Total marks allocated : 30 %

Index No:

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PART III -Essay

Question 01

- I. Write short notes on, (15 marks)
- a) The role of correct agitation speed during a bio-process occurred in a bioreactor.
 - b) The role of an air sparger in a bioreactor.
- II. A bacterial fermentation was carried out in a reactor containing broth with an average density of 1500 kg/m^3 and viscosity 0.02 Ns/m^2 . The broth was agitated at 90 rpm and the impeller diameter, D_i is 4m.
- a) Calculate the Reynolds number of the broth (05 marks)
 - b) Determine the **agitator power, P in W**, if the power number for turbulent regime is considered as 6 & 4 for laminar flow at certain conditions. (10 marks)