ADDIS COLLEGE

COTM 6301: Construction Economics and Financial Management

First Semester 2019/20 (2012 E.C) Date April…. 2020

Group 6 Final Examination

Note: ***Exam is Open book***

Attempt all questions

Date of Submission ……

1. A Construction firm is contemplating to establish a manufacturing plant as a subsidiary firm, to support it construction activities. Initial investment for the manufacturing plant is estimated to be 100 million Birr. The operation and maintenance cost is estimated to be 3 million birr per year. If the life of the investment is considered to be over 40 years, what amount of money is the firm required to save in an account with an interest rate of 9% to cover the perpetual Operation and Maintenance costs?
2. What procedures does one use to analyze mutually exclusive projects of unequal services lives? Describe your approach in sufficient detail
3. A new bridge with a 100-year life is expected to have an initial cost of $20 million. This bridge must be resurfaced every five years, at a cost of $1 million. The annual inspection and operating costs are estimated to be $50 000. Determine the present-worth cost of the bridge using the capitalized equivalent approach (i.e., take the life of the bridge as infinite). The interest rate is 10% per year, compounded annually.
4. A building contractor is considering to purchase a new construction lift at a cost of 50 000 Birr, the life time of the machine is estimated to be 10-years. At the end of its life it will be sold for a salvage value equal to 10% of its original cost. Determine the capital recovery, based upon an interest rate of 8'/0 per year, compounded annually.
5. A cash flow series shows the following payments. $5000 the first year, $5500 the second year, and $6000 the third year,

a. What type of cash flow pattern is this?
b. What is the equivalent present value of the series of payments? The interest rate is 8%, compounded annually