NED UNIVERSITY OF ENGINEERING & TECHNOLOGY
Department of Software Engineering
THIRD YEAR (SOFTWARE ENGINEERING)
MID TERM EXAMINATION FALL 2020

Dated 11-12-2020

Time: 1.5 Hour Max. Marks: 20

Applied Economics for Engineers (IF-301)

Instructions: Attempt ALL questions.
Make assumptions where necessary.

Q1. What is Applied Economics? For each phase of the software development cycle, estimate the efforts, duration, productivity and staff required for software with an initial size of 100 KLOC. **[C1, C3]** (05 Marks)

Consider at least seven cost drivers with ratings other than "Nominal".

Q2. How COCOMO II is different from COCOMO 81? Using Object Points, compute the estimated effort for a system that includes: **[C1, C3]** (04 Marks)

20 Screens:	12 simple + 5 medium + 3 Difficult
15 Reports:	10 simple + 1 medium + 4 Difficult
3GL Components:	04 Difficult

25% of the objects are available from previously developed components. Developer's experience & CASE maturity are rated as "Low" and "Very High" respectively.

Q3. Estimate the source lines of code (LOC) required to develop software – "an Attendance Management System" in Java programming language. The function points are estimated as: **[C3]** (05 Marks)

16 user inputs:	05 Simple + 05 Average + 06 Complex
09 user outputs:	05 Simple + 02 Average + 02 Complex
07 user inquiries:	03 Simple + 02 Average + 02 Complex
06 internal files:	02 Simple + 02 Average + 02 Complex
04 external file:	02 Simple + 01 Average + 01 Complex

Consider appropriate Influence Factors.

Q4. COVID-19 has changed online shopping. Online purchases rise but at times, it gets hard for a buyer to find the best price of a particular item such as a **tablet pc** because of so many online shopping sites available. For a better price, the buyer search for "best price for samsung tablet pc" and then visits each website selling tablet pc. **[C2]** (06 Marks)

Suggest a software solution. Mention how it will work. Estimate the efforts (duration) required. Mention reason(s) of selection of estimation technique. Suggest cost and price of the software. Mention factors considered in costing and pricing.