CSE 316 Sessional Guidelines

1. Attendance: Marks will be awarded according to BUET rule.
2. The sessional course can be seen as having two different parts: i) assembly programming for 8086 microprocessors ii) interfacing and designing embedded systems with microcontrollers.
3. Assembly Programming: There will be two onlines and one offline.
4. Microcontroller Experiments:
   - Experiments are to be finished within the class hour. **NO PROVISION FOR REPEAT.** Evaluation will be based on whatever is done during the class. However if one wants to improve one's grade, (s)he can do it by performing the experiment in any subsequent class. **In that case one will be entitled to get a maximum of 70% marks.**
   - The weight of each experiment will be the same. For simplicity of evaluation each experiment will be marked in 10. **For extraordinary performance such as exploring different alternatives or producing different outputs not mentioned in the sheet will be awarded with additional 20% bonus**.
   - Group performance will be based on what they are doing to perform the experiment. This mark will be same for all the members present in the class. **HOWEVER, IF ANY MEMBER IS FOUND NOT PARTICIPATING ACTIVELY IN THE EXPERIMENTS, HIS/HER GROUP MARKS WILL BE DEDUCTED (NO FREE MARKS FOR ONLY SHOWING UP AND GOSSIPING/STARING AT MOBILE SCREEN/DOING NOTHING, etc.).** Individual performance will be evaluated based on his response to the questions asked to each member of the group during class. This mark will vary from individual to individual. Questions can be asked randomly to any member. If any one remains absent in a class, his group mark will be zero.

5. Quiz: One Quiz will be held based on the knowledge of assembly language and microcontroller experiments.
6. Project: Students in small groups [1 or 2 members] will have to complete [design and implement] a project using ATmega32 microcontroller.
7. Viva: One viva will be held based on the microcontroller experiments.

Marks Distribution:

Criteria	Marks(%)
Attendance	10
Assembly Language Experiments	20
Microcontroller Experiments	15
Viva	10
Project	25
Final Quiz	20
Total	**100**

Week Plan:

Week	Topics
Week 1	Sessional Overview Introduction to Assembly Programming: Basic Programming
Week 2	Online 1 on Assembly Programming Lecture on Assembly Programming: Status Register, Control Structure)
Week 3	Online 2 on Assembly Programming Lecture on Assembly Programming: Procedure, Multiplication and Division
Week 4	Offline + Online on Assembly Programming
Week 5	Experiment on ATmega32 Microcontroller: Basic I/O and Interrupt - Lab Sheet Link
Week 6	Experiment on ATmega32 Microcontroller: Led Matrix - Lab Sheet Link
Week 7	Project on microcontroller: Proposal
Week 8	Experiment on ATmega32 Microcontroller: ADC + LCD Display - Lab Sheet Link
Week 9	Viva
Week 10	Quiz

Week 11	Project on microcontroller: Update 1
Week 12	Problem Solving Class for Project
Week 13	Project on microcontroller: Final Update

Learning Outcomes/Objectives:

After undergoing this course, students should be able to:

i. Program using assembly language.
ii. Develop and execute programs for Microprocessors
iii. Create digital embedded systems using microcontroller along with various sensors and actuators.