

Medical Equipment I Class Project 2010-2011

Consider ONLY FIVE of the following medical devices:

1. Patient monitor
 2. Ventilator
 3. Hemodialysis machine
 4. DC shock defibrillator
 5. Electrosurgical unit (ESU)
 6. Ultrasound imaging
 7. Fetal Doppler
 8. Hearing aid
 9. X-rays
 10. Steam sterilizer
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- a. Describe clearly the theory of operation of each in English. *(1 Page – 1 point)*
 - b. Describe clearly the theory of operation of each in Arabic. *(1 Page – 1 point)*
 - c. Describe in one page their operation in clinical use (i.e., how the clinician uses them). *(1 page – 2 points)*
 - d. Based on a site visit, provide specific comments about the problems facing the use and maintenance of each of these devices in the actual local environment in the site you visited. *(1 page – 2 points)*
 - e. Provide your comments about the technology used in the implementation of each device (e.g., hardware or software) and your possible suggestions / innovations in their respective areas. *(1 page – 2 points)*
 - f. Provide your own evaluation of the aspects of human factors engineering as applied to each of the medical devices you considered in your report. *(2 pages – 2 points)*

Important Notes

1. You are required to submit by January 1, 2011. No late submissions will be accepted.
2. The project evaluation will amount to 10 points in your term grade.
3. Number of students in the group should include an average of 10 students. Be advised that all projects will be graded the same regardless of how many students are on it.
4. All students in the same group will receive the same grade. It is your responsibility to work as a group to get the best grade for all of you.
5. You are required to submit the project in electronic format only (i.e., on a CD – no hardcopies will be accepted). The project output should include a report in PDF format for each group. No additions or modifications to the report or the presentation will be allowed after the deadline.
6. You must use your own words in the report with clear reference citation. “Copy-Paste” items without references will not be accepted and will be considered as plagiarism. Plagiarism/cheating will not be tolerated in this class and will result in a failing coursework grade for all members of the project group.