

Technology and Techniques Final Exam

Name:

Direction: You will be given 10 minutes at each station, please record all work and answers on your exam sheet

Station 1: Infusion Pump

Criteria: Choose one rating from each category	Weight	Score
Clinical function		
No patient contact	1	
Device may make contact with patient but function is non-critical	2	
Device is used for patient diagnosis, or direct monitoring	3	
Device is used to deliver direct treatment to the patient	4	
Device is used for a life support	5	
Physical risk		
Device poses no appreciable risk due to failure	1	
Device failure will result in low risk	2	
Device failure will result in inappropriate therapy, misdiagnosis, or loss of monitoring	3	
Device failure could result in severe injury to, or death of, patient or user	4	
Problem avoidance probability		
Maintenance or inspection would not impact reliability of the device	1	
Common device failure modes are unpredictable or not very predictable	2	
While common device failure modes are not very predictable, device history indicates that TSP testing frequently detects problems	3	
Common device failure is predictable and can be avoided by preventive maintenance	4	
Specific regulatory or manufacturers requirements dictate preventive maintenance or testing	5	
Incident history		
No significant history	1	
A significant history of incidents exists	2	
Manufacturers/regulatory requirements for specific schedules		
No requirements	1	
There are requirements for testing independent of a numerical rating system	2	
Total Score:		
Assignment: 0.0x 0.5x 1x 2x 3x 4x (times per year tested)		

How often would you inspect the infusion pump? _____

Station 2: Infusion Pump Inspection

Test Result			
Pass	Fail	N/A	
Physical condition			
			Device is clean and decontaminated
			No physical damage to case, display, mounts, cart, or components
			Switches and controls operable and correctly aligned
			Display intensity adequate for daytime use
			Control numbers, labeling, and warnings present and legible
			Inlets and hoses
			Power cord, accessory cables, charger
			Filters and vents clean

If you fail one of the inspections please list your reasons why here.

Station 3: Service Manual

- First: Find the Infusion pump service manual online
- Second: Write down the location (section number) for the instructions of how to perform the electrical safety procedure for this pump (In other words I want you to write down the correct series of numbers and decimals, an example would be 3.4.2)?

Station 4: ESA testing

Record the values make sure to include the correct units

Test	Measurement	Maximum allowed	Pass or Fail
Ground wire resistance			
Chassis Leakage			

Station 5

Use the simcube 5 to check the accuracy of the spot monitor. Use the setting for an adult with a blood pressure of 120/80mmHg, write down the value measured by the spot monitor.

If it is acceptable for the unit to be within ± 10 mmHG does this unit pass the inspection?

Station 1: Infusion Pump (10points total)

Full Credit: Correct assignment frequency and total score with in 2 of correct

-5 for incorrect frequency

- 5 for total score 2-4 from correct value

-10 for total score over 4 from correct value

Station 2: Infusion Pump Inspection (10 points)

Full credit identifies main issues and give a reason

-2 for each correctly identified failure but without a reason

-4 for unidentified failure

Station 3:Service Manual (10 points)

Full credit: writes down correct value

Finds incorrect service manual or incorrect section -5

Write nothing or is unable to find any service manual -10

Station 4: ESA testing (10 points)

Test	Measurement	Maximum allowed	Pass or Fail
Ground wire resistance	2 points (value + correct unit)	2 points (value + correct unit)	1 point
Chassis Leakage	2 points (value + correct unit)	2 points (value + correct unit)	1 point

Station 5 (10 points)

Full credit: operates simcube correctly and gets appropriate value

-5 able to operate simcube but does not use correct values

-10 if unable to operate simcube and get a value

“This product was funded by a grant awarded by the U.S. Department of Labor’s Employment and Training Administration. The product was created by the grantee and does not necessarily reflect the official position of the U.S. Department of Labor. The U.S. Department of Labor makes no guarantees, warranties, or assurances of any kind, express or implied, with respect to such information, including any information on linked sites and including, but not limited to, accuracy of the information or its completeness, timeliness, usefulness, adequacy, continued availability, or ownership.”