Appendix E Questions

1.1 Using NIOSH 1991 Calculate The RWL

H = 30 cm	A = 70 Degrees
D = 20 cm	F = 5 x per Min
V = 90 cm	C = Poor

1.2 Calculate The Lifting Index

1.3 What is the most significant multiplier penalizing the lift?

1.4 How would you improve this multiplier's effect?

1.5 What would be the effect on H if it was set to 10 cm

SNOOK TABLE READING

Lifting/Lowering

Column 1:	75	49	34
Column 2:	25, 51, 76	25, 51, 76	25, 51, 76

Column 3: Percentile

Column 1 = H
The horizontal distance in cm from the midpoint between the hands, on the object, to the midpoint between the ankles at the start of the lift
Column 2 = D
The distance between the hands at the start of the lift to the highest point during the lift, in cm.

SNOOK Table Questions

A shipper must complete several manual material handling tasks including:

- pushing a load of boxes to a storage area
- carrying a box to a shelf
- lifting the box onto a shelf above shoulder height

The frequency of these tasks COMBINED is one every 30 minutes.
You determine the characteristics for each task.

The Push:

- female worker
- height to hands is 89 cm
- 7.6 m push
- 1 every 30 minutes

The Carry:

- female worker
- height to hands is 72
- 2.1 meter carry
- one carry every 30 minutes

The Lift:

- female worker
- lift from knuckle to shoulder height
- width from body is 34 cm
- distance of lift is 51 cm
- one lift every 30 minutes

Calculate The 90th Percentile Threshold Weight for each task is as follows:

2.1 The initial force of the push

2.2 The sustained force of the push

2.3 The weight able to be carried

2.4 The recommended weight to be lifted

2.5 The threshold weight for the entire task

Appendix E

Answers

1.1 Your Midterm. How did you do? Any questions?

2.1 *RWL = 23(.83 x 1 x .95 x .776 x .8 x .9)*
= 10.13 kg

2.2 Calculate The Lifting Index?
LI = Wt/RWL
= 20/10.13
= 1.97

2.3 What Is The Most Significant Multiplier?
Assymetrical Multiplier

2.4 How Would You Improve The Most Significant Multiplier From Penalizing The Lift?
It could be improved by requiring less twisting.

2.5 What would be the effect on H if it was set to 10 cm
The value would be 1 because it is less than 25cm and considered safe if it is at this level.

3.1 The Threshold Limit for:

The push:
See Table 6
TLV is 23 kg for initial force

3.2 The Threshold Limit for:
The push:
See Table 6
TLV is 13 for sustained force

3.3 The Threshold Limit for:
The carry:
See table 9
TLV is 19 kg

3.4 The Threshold Limit for:
The lift:
See table 2
TLV is 14 kg

3.5 The Threshold Limit for:
The entire task is:

13 kg the lowest value is used because it is the most significant weight identified. If a higher weight was used it would exceed the limit for sustained force and place the operator at increased risk.

APPENDIX F
QUESTIONS 1-5

1.1 The First Three Concepts Applied

Spray painting is being done in an unventilated corner of a shop. Surrounding surfaces, light bulbs, etc., are covered with a sticky film.

1.
2.
3.

1.2 The First Three Concepts Applied

In the body fill area of an auto plant, workers fill body joints with hot lead solder. The whitish cloud rising from the heated lead passes by the worker prior to entering the fume hood.

1.
2.
3.

1.3 The First Three Concepts Applied

An area of the office is being renovated. The work is done at night, but during the day office workers complain of allergies, skin irritations and breathing problems. What might be causing their problems?

1.
2.
3.

1.4 CONTROL OF DESIGNATED SUBSTANCES MUST:

a. Adequately control the hazard
b. Not cause undue discomfort or stress
c. Protect every worker exposed
d. Eliminate the hazard both in the workplace and surrounding community
e. **All of the above**

1.5 Particles formed by the incomplete combustion of carbon are referred to as:

a. **Smoke**
b. Fume
c. Gas
d. Vapour