CHAPTER 2 SAMPLE QUIZ QUESTIONS

2.1. For the year a firm with 30 employees has two injuries, one of which involved lost workdays, and four illnesses, all of which involved lost workdays. Calculate the LWDI.

ANS: $\frac{1 \times 200,000}{30 \times 2000} = \frac{3.33}{30}$

ref. p. 20-24

2.2. Calculate the LWDI for a firm that has 40 employees and for the year has had 12 work-related injury cases, each involving one or more lost workdays?

a. 12 **b. 30** c. 16.5 d. indeterminate from the data supplied.

ref. p. 20-24

2.3. Calculate the LWDI for a firm that has 15 employees and for the year has had 11 work-related injury cases, each of which involved one or more lost workdays?

a. 73.3b. 36.5c. 8.6d. indeterminate from the data supplied.

ref. p. 20-24

- 2.4. A 65-employee firm has the following injury and illness record for the year:
 - Case 1 Work-related injury; no workdays lost
 - Case 2 Work-related illness; 5 days away from work

Case 3 - Work-related injury; one workday away from work; nine more days in restricted work activity

Case 4 - Injury; able to stay at work, but for two weeks employee was unable to do regular job and was assigned to another one. Case 5 - Illness: not work-related

a. Calculate the LWDI.

ANS: $2 \times 200,000 = 3.08$ 65×2000 b. Calculate the total injury/illness incidence rate. ANS: $(1 + 3) \times 200,000 = 6.15$ 65×2000 c. Calculate the number-of-lost-workdays rate. ANS: $(5 + 1 + 9 + 10) \times 200,000 = 38.46$ $65 \times 200,000$

ref. p. 20-24

- 2.5. The standard OSHA total injury/illness rate is scaled for:
 - a. 1,000,000 work-hours
 - b. a 50-employee firm for one year
 - c. a 100-employee firm for one year
 - d. a 500-employee firm for one year

ref. p. 21

2.6. Comment on the advantages and disadvantages of forming committees to identify hazards and make suggestions for resolution of these hazards.

ANS: Committees have the advantage of getting the production and operating personnel involved, because these are the people who know the hazards best within their work areas. Another advantage is that the committee approach gets more people involved throughout the plant, so that it generates more <u>exposure</u> to the safety/health program. Also, when changes to promote safety and health are carried out, the changes will be accepted more readily by plant workers if those same workers had a hand in suggesting the changes. A disadvantage is that workers may have unrealistic expectations and then be disappointed when management does not implement some of the committee suggestions, which may at times be impractical. Also, committees can sometimes degenerate into spy parties that bring discredit upon other competing departments.

ref. p. 34-35

2.7. On February 1, a firm posts its annual OSHA 300A Summary for the previous year as shown below.

4

				Ports approved OMB
All establishments covir to verify that the entries Using the Log, count had no cases, write 'O Employees, former e its equivalent. See 29 C	red by Part 1904 must con are complete and accural the individual entries you i mployees, and their repres CFR Part 1904.35, in OSHA	riplete the Summary page, even I le before completing this summar made for each category. Then will entatives have the right to review is recordiceping rule, for further o	no work-related injuries or illnesses occurred during the year. Remember s the totals: below, making scie you've added the entries from every page he OSHA Form 300 in its entries; They also have finding access to the OS what on the access provisions for these forms.	to review the Log of the Log. If you HA Form 301 or City Establishment information TIPTON TRAILERS Servet <u>603</u> N. 1174 City EN 10 Sole OK 21P, 73701
Number of C	ases			
Total number of deaths	Total number of cases with days away from work	Total number of cases with job transfer or restriction	Total number of other recordable cases	Industry description (e.g., Manufature of matter under cality) <u>MEG_TRVER_TRAILERS</u> Sandard Industrial Classification (SIC), if known (e.g., SIC 3715) 37715
(G)	(H)	0	(J)	Employment information (I) you don't have these figures, see the
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21		12		Sign here
(K)		(L)		Knowingly falsifying this document may result in a fine.
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Skin disorders	0			Const. 1 March 1
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Public reporting burden for	or this collection of information offection of information. Person	is estimated to average 50 minutes per is are not required to respond to the col	response, including time to review the instructions, search and gather the data needed terrion of information unless it displays a currently valid OMB control number. If you	, and hare any

For purposes of this exercise, assume that both of the illnesses (listed in M(5)) were in the category of lost workdays (Category H – cases with days away from work).

Calculate: (a) LWDI:

ANS: To arrive at the number of cases to count in the LWDI subtract the illness cases out of the total in Category H, i.e., 6-2 = 4.

 $LWDI = \frac{4 \times 200,000}{100,000}$ = $4 \times 2 = \underline{8}$ (b) Illness incidence rate: ANS. Illness-incidence = $\frac{2 \times 200,000}{100,000}$

(c) Fatality-incidence rate:

ANS. 1 x 200,000 Fatality-incidence = ------100,000

(d) Number-of-lost-workdays rate:

- ref. p. 20-24
- 2.8. The text describes a type of analysis that is said to be the "single most effective method of training workers to avoid injury and illness." Name this analysis and describe its advantages and its primary disadvantage.

ANS: "Accident cause analysis" is advantageous in that it shows workers what has already happened to their co-workers. It is advantageous even for those accidents that do not result in injuries, because even no-injury accidents are unwanted events that next time might cause injuries. The analysis can lead to design changes to product, process, or work procedures. The primary disadvantage is that the analysis is too late to prevent the accident being studied.

ref. p. 33-34

2.9. Place an entry in the attached OSHA 300 Log for the following Case File. If the case file is not recordable write "Not recordable" on the line.

Case File 11--Tenosynovitis victim undergoes carpal tunnel surgery. The employee is away from work all day Tuesday, May 6, and returns to work Friday morning, May 9, at the regular time for her shift. However, due to the surgery she is given an alternate job beginning on the Friday that she returns to work, and she stays on that alternate job until Monday morning, June 2, when she returns to her regular job.

ANS: The Case File 11 entry should read:

Classi	iy the cas	e	week ONLY	Enter the nu	mber of	Checker	te Maiur	r" column
the most serious result for each case!				III worker was:		choose one type of Mness:		
Death	Days away from work	Remaine Job transfer	d at work Other records	On job transfer	Away from	(M) 6		akolo.gC
(G)	(H)	or restriction {}}	(J)	(K)	(L)	(1)	2) (3)	(4) (5
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Note that Column H was checked because being away from work is considered a more serious result than Column I, "job transfer or restriction." Since the worker was away from work all day Tuesday, Wednesday, and Thursday, Column L shows 3 days away from work. From Friday, May 9, she remains in her alternate job assignment until Monday, June 2. Counting all the days INCLUDING weekends in this alternate job, she was in "job transfer or restriction" a total of 24 calendar days, so the entry in Column K is 24. Since tenosynovitus can not be classified as an injury or skin disorder or respiratory condition or poisoning, it is classified as "All other illnesses," Column M(5).

ref. p. 24-31

2.10. Examine the OSHA 300 Log and construct the OSHA 300a Summary of Work-Related Injuries and Illnesses on the form provided. Assume that this firm has 200 employees and all employees worked for the entire year. Calculate the LWDI.

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							(1)	(2)	(3)	(4)	(5)

ANS:

OSHA's Form 300A Summary of Work-Related Injuries and Illnesses

All establishments covered by Part 1904 must complete this Summary page, even if no work-related injuries or illnesses occurred during the year. Remember to review the Log to verify that the entries are complete and accurate before completing this summary.

Using the Log, count the individual entries you made for each category. Then write the totals below, making sure you've added the entries from every page of the Log. If you had no cases, write "0."

Employees, former employees, and their representatives have the right to review the OSHA Form 300 in its entirety. They also have limited access to the OSHA Form 301 or its equivatent. See 29 CFR Part 1904.35, in OSHA's record/keeping rule, for further details on the access provisions for these forms.

Number of 0	Cases			Cary
Total number of deaths	Total number of cases with days	Total number of cases with job	Total number of other recordable	Industry description
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(G)	(H)	0	(J)	Employment i Worksheet on the back
Number of	Days			Annual average nur
Total number of a job transfer or res	days of To striction av	otal number of days way from work		Total hours worked
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Injury and I	lilness Types			I certify that I have knowledge the cr
(M) (1) Injuries	7	(4) Poisonings		Company size unive
(2) Skin disorders	Ĩ	(5) All other illness	.s	() Phone
(3) Respiratory cond	litions			Bussesses

Post this Summary page from February 1 to April 30 of the year following the year covered by the form.

Public reporting burden for this collection of information is estimated to average 50 minutes pet response, including time to review the instructions, search and gather the data needed, and complete and review the collection of information. Persons are not required to respond to the collection of information unless it displays a currendy valid OMB control number. If you have any comments about these estimates or any other aspects of this data collection, contact: US Department of Labor, OSHA Office of Statistics, Room N-3644, 200 Constitution Avenue, NW, Washington, DC 20210, Do not send the completed forms to this office.

$$LWDI = 4 \underline{x \, 200,000}_{200 \, x \, 2000} = 2$$

ref. p. 24-32

Establishment

Your establishment n

Street

2.11 What method of training is considered most effective?

ANS: Accident cause analysis and subsequent dissemination of information to personnel.

ref. p. 33-34

2.12. Describe the fatality case study presented in the text in which the fatality would have been easily prevented by accident cause analysis of a previous near-fatality which occurred only a week earlier.

ANS: Case study 2.2 describes a fatality that occurred when an employee was struck by a large wrench while opening a railroad hopper car. A similar accident had occurred only week earlier without injury. Had the first accident been analyzed, corrective action could easily have prevented the fatality the very next week.

ref. p. 34

2.13. What is the principal disadvantage of accident cause analysis?

ANS: It is the after-the –fact.

ref. p. 34

2.14. What specific OSHA reform concept was introduced into Congress in the early 1990's?

ANS: Mandatory safety and health programs with employer/employee committees to address safety and health issues.

ref. p. 35

2.15. Briefly summarize the findings of the 1993 NSC study regarding a specific issue of OSHA reform.

ANS: The study addressed the question of the committees and whether employees should be involved in a company's safety and health program. The majority response was that employee involvement and committees are essential. ref. p. 35

- 2.16. Recent estimates by the National Safety Council place the annual cost of U.S. occupational injuries alone at approximately
 - a. 154 million
 - b. 5.5 billion
 - c. 164 billion
 - d. 1.2 trillion

ref. p. 36

2.17. What organization estimates the annual costs of occupational injuries on a national basis, and what are recent estimates of this figure.

ANS: The National Safety Council estimates these costs and reports them in their annual publication <u>Injury Facts</u>. Recent estimates place total annual costs

for occupational injuries alone at over \$164 billion. (ref: Injury Facts, 2002 edition, reporting 2001 statistics)

ref. p. 36

- 2.18. Studies by Simonds and Grimaldi and Imre estimate hidden costs of accidents by dividing cases into four categories. Name these categories of hidden costs:
 - ANS: 1. First-aid cases
 - 2. Doctors' cases
 - 3. Lost-time cases
 - 4. No-injury cases
- 2.19. What is the National Safety Council estimate of the average total cost of a worker fatality?

ANS: \$1,270,000

ref. p. 39

ref. p. 39

- 2.20. Workers Compensation premiums are a significant portion of the hidden costs of accidents.
 - a. True
 - b. False

ref. p. 36

- 2.27. What two facets of a drug or alcohol abuse program are suggested by the text?

2.21. Workers Compensation premiums have grown in recent years to become a more significant percentage of total payroll.

a. True

b. False

a. True b. False

a. True b. False

a. True b. False ref. p. 36

2.22. Despite significantly higher premium rates for Workers' Compensation insurance in recent years, these costs are still considered as the "tip of the iceberg" when considering the total costs of accidents.

2.23. The hidden costs of accidents are considered the "tip of the iceberg" when compared to the rising levels of Workers' Compensation costs.

ref. p. 36

ref. p. 36

ref. p. 36

2.25. Which of the following cost categories is referred to in the text as the "tip of the iceberg?"

2.24. Due to recent significant increases, Workers' Compensation costs have been

a. Workers Compensation costs

- b. Hidden costs of accidents
- c. OSHA fines
- d. Cost of compliance with OSHA standards

ref. p. 36

ref. p. 36-38

- 2.26. Which of the following costs are covered by Workers Compensation insurance?
 - a. Cost of wages paid supervisors for time required for activities necessitated by the accident.
 - b. Overtime wages for the time needed to make up lost production.
 - c. Wage cost caused by decreased output of injured worker after return to work.
 - d. All of the above
 - e. None of the above

found to exceed the hidden costs of accidents.

	ANS: 1. Screening tests 2. Employee assistance programs	ref. p. 41
2.28.	What 1990 law protects disabled persons from job discrimination?	
	ANS: The Americans with Disabilities Act (ADA)	ref. p. 42
2.29.	Name the two infectious viruses that are the target of OSHA's Bloodb Pathogens standard.	orne
	ANS: 1. Human Immunodeficiency Virus (HIV) (also called "AIDS" v 2. Hepatitis B virus (HBV)	irus)
		ref. p. 44-45
2.30.	The primary at-risk occupations for bloodborne pathogens are the her professions.	alth care

a. true b. false

ref. p. 44-45

2.31. OSHA limits its enforcement of the Bloodborne Pathogens standard to the health care professions.

a. true **b. false**

ref. p. 44-45

2.32. Explain the circumstances under which OSHA prohibits the handling of contact lenses, and explain why.

ANS: In work areas that might be exposed to bloodborne pathogens. The reason is potential exposure to HIV or HBV viruses.

ref. p. 44-45

- 2.33. Under what circumstances does OSHA require the employer to have a written exposure control plan for bloodborne pathogens?
 - a. Only in hospitals and health care facilities.
 - b. Only in establishments that have 10 or more employees who may be exposed.
 - c. Only in establishments that have 1 or more employees who may

be

exposed.

d. None of the above; a written plan is not required.

ref. p. 44

2.34. Dealing with "sharps" is a principal consideration in which of the OSHA standards?

ANS: The Bloodborne Pathogens standard

ref. p. 44-45

2.35. Describe the circumstances under which an employer should be concerned with the development of a written exposure control plan for bloodborne pathogens.

ANS: Whenever the employer has one or more employees who may encounter occupational exposures to bloodborne pathogens, such as HIV or HBV viruses. ref. p. 44-45

- 2.36. Which of the following is the principal question to be asked to determine whether a firm is covered by OSHA's Bloodborne Pathogens standard?
 - a. Does the firm have 10 or more employees?
 - b. Is the firm a hospital, clinic, or other healthcare facility?
 - c. Does the facility deal with "sharps," such as needles or broken glass?
 - d. Will workers be exposed to blood or other potentially infectious materials?

ref. p. 44-45

for roofing workers than for department store workers, as might be expected. The ratio of these percentages is approximately

a. two to one b. three to one **c. ten to one**

d. 100 to one

ref. p. 36

2.38. What is the principal hazard from improper disposal of "sharps" in the workplace?

ANS. Exposure to HIV infection

ref. p. 44-45

2.39. Which of the following statements describes the status of the control of smoking in the workplace?

a. OSHA has issued a final standard entitled "Indoor Air Quality" that addresses smoking and other air quality hazards in the workplace.

b. Smoking in the workplace comes under the jurisdiction of the EPA, not OSHA
c. OSHA has issued guidelines and proposed air quality standards, but has not promulgated a standard addressing smoking in the workplace.
d. Congress exempted smoking in the workplace in the drafting of OSHA's authority under the OSHA law.

ref. p. 42-43

2.40. Explain the concept of "experience modifier" as used in the context of this course. Exactly what is modified? Give an example of a "good" and a "bad" experience modifier. Finally, illustrate the application of the experience modifier in a fictitious numerical example.

ANS. The experience "modifier" or "rating" is a factor multiplied by the standard insurance premium for Workers Compensation insurance. The factor adjusts the premium based upon the firm's record of claims for injuries and illnesses. A factor higher than 1.00 would be a "bad" experience modifier, because the firm's insurance premium would be higher than standard. A factor lower than 1.00 would be a "good" modifier, because the firm's insurance premium would be for the firm's insurance premium would be lower, due to its good past record. For example:

Standard insurance premium: \$80,000Experience modifier: 0.85 Actual premium to be paid = $\$80,000 \times 0.85 = \frac{\$68,000}{1000}$

ref. p. 17

2.41. The standard insurance premium for a firm in a particular industry is \$760,000 per year, based upon its type of industry and number of employees. However, the firm has an "experience modifier" of 0.95. Calculate the adjusted insurance premium for this

firm.

ANS. Insurance premium = $0.95 \times 760,000 = \frac{$722,000}{}$

ref. p. 17

2.42. What size firm are the OSHA recordkeeping incidence rates scaled to represent? Explain.

ANS. The OSHA recordkeeping formulas can be used for any size firm because the denominator in the calculation relates the incidence counts to the number of hours worked by employees in the firm. The numerator scales this rate by multiplying by a constant of 200,000, which is typical for a 100-employee firm in which the employees each work approximately 2000 hours per year (100 x 2000 = 200,000). Therefore the incidence rates are scaled to represent a <u>100-employee firm</u>.

ref. p. 21

2.43. A firm is exempt from OSHA recordkeeping requirements only if:

a. It has been notified by the BLS that it is exempt.

b. It has 10 or fewer employees AND it has been told by BLS that it is exempt. c. It has 10 or fewer employees AND it has NOT been told by BLS that it is not exempt.

d. Never. OSHA recordkeeping is required for ALL firms.

ref. p. 33

2.44 What is the main premise of worker's compensation?

ANS: The main premise is that workers should be compensated for injuries in a fair and prompt manner.

ref. p. 16

2.45 Where did worker's compensation first come about?

- a. United States
- b. Canada
- c. Europe
- d. Great Britain

ref. p. 15

2.46 What is the unit of measure for worker's compensation?

ANS: Each injury is compensated in a given number of weeks at 66.3% of average weekly pay

ref. p. 16-17

2.47 There has been experimentation in privatization of state worker's compensation programs. Which state was the first to privatize?

- 2.48 Which of the following are included in Total Recordable Cases (TRC)?
 - a. Injuries
 - b. Illnesses
 - c. Fatalities
 - d. Ergonomic Injuries

ref. p. 22

- 2.49 <u>The Days Away From Work Injury and Illness Case Rate (DAFWII) does not</u> include fatalities.
 - a. true
 - b. false

ref. p. 22

- 2.50 DART is a measure of the number of cases involving days away from work after an injury.
 - a. true
 - b. false

ref. p. 22

2.51 Which metric does OSHA most often use to determine which high hazard industries to prioritize for inspections?

ANS: the Days Away Restricted or Transferred rate

ref. p. 23

2.52 The Standard Industrial Classification is being replaced by the North American Industry Classification System.

a. true

b. false

ref. p. 23

2.53 What are the four metrics that are in use to set inspection priorities?

ANS: DART, DAFWII, TRC, LWDI

ref. p. 23

2.54 Hearing loss is not considered a recordable injury by OSHA.

ref. p. 18

- a. true
- b. false

ref. p. 24

2.55 What level of hearing loss is considered a recordable injury by OSHA?

ANS: Hearing loss is defined as a Standard Threshold Shift and accompanying total hearing level 25 decibels or more above audiometric zero in the same ear.

ref. p. 24

- 2.56 Needle sticks are not required to be recorded on the OSHA Form 300 log.
 - a. true
 - b. false

ref. p. 44

- 2.4. A 82-employee firm has the following injury and illness record for the year:
 - Case 1 Work-related injury; transferred to another job for 10 days
 - Case 2 Work-related illness; 3 days away from work

Case 3 - Work-related injury; one workday away from work; nine more days in restricted work activity

Case 4 - Injury; able to stay at work, but for two weeks employee was unable to do regular job and was assigned to another one. Case 5 - Illness; not work-related

- a. Calculate the DAFWII.
- b. Calculate the DART.

a. ANS: $\frac{2 \times 200,000}{82 \times 2000} = \frac{2.44}{82 \times 2000}$ b. ANS: $\frac{4 \times 200,000}{82 \times 2000} = \frac{4.76}{82 \times 2000}$

ref. p. 20-24