

## Practice Questions/Answers Series 2

The following questions are presented by **Safety Results Ltd.** to assist the CRSP candidate to assess their own knowledge gaps. **They are NOT created to simulate the multiple choice questions you will see on the BCRSP Examination.**

*“There are no hard questions if you know the answers.” – Alan D. Quilley*

Focused study on gaps in your current knowledge will move you towards your goal of not only being successful on the BCRSP Examination, but to make you a more valuable resource for your clients and employers. Being able to fully describe, in detail, a subject will help prepare you to answer multiply choice questions you will face in the BCRSP Examination.

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**Alan D. Quilley CRSP**

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## Practice Questions/Answers Series 2

### Applied Safety Fundamentals (ASF)

- 2.1. Q: An inspection report should be guided by what four rules?
- 2.2. Q: A good record keeping system will assist the CRSP in these ways. List five.
- 2.3. Q: What are the differences in definitions of “accident” and “incident?”
- 2.4. Q: The format of an investigation should reflect the core information in an investigation. List Six critical areas of information.
- 2.5. Q: Which organization established the TLVs?

***DON'T LOOK – The Answers are on the next Page!***



## **Applied Safety Fundamentals (ASF)**

### **2.1. Q: An inspection report should be guided by what four rules?**

2.1. A: Four Rules of Inspection reports are:

- 1) Where possible immediately correct the cause of the problem
- 2) Report the concern/conditions to the immediate supervisor or person in authority
- 3) Inform management of the condition and suggest solutions
- 4) Take immediate action as needed as the hazard should not be ignored. Temporary measures to isolate the hazard such as roping off an area, lockout/tag-out and posted warnings.

### **2.2. Q: A good record keeping system will assist the CRSP in these ways. List five.**

2.2. A: The five ways good record keeping will assist are:

- 1) Provide an objective means of evaluating the incident records as a measurement of the overall effectiveness of the safety program
- 2) Identify high incident rates in various plants, departments or facilities so that extra effort can be directed to those areas
- 3) Provide data for an analysis of the incidents reported
- 4) Provide supervisors and safety committees with hard data about the safety issues
- 5) Measure the effectiveness of specific countermeasures and determine if they are doing the job they were designed to do.

### **2.3. Q: What are the differences in definitions of “accident” and “incident?”**

2.3. A: An **incident** is defined as an undesired event that may cause personal harm or other damage. An **accident** is defined as an occurrence in a sequence of events that produces unintended injury, death or property damage.

### **2.4. Q: The format of an investigation should reflect the core information in an investigation. List Six critical areas of information.**

2.4. A: Incident investigation reports follow a prescriptive format that reflects the core of investigation.

- 1) Who was injured?
- 2) What equipment/machinery/condition was involved? What was the nature of the injury, if any?
- 3) Where did the incident occur?
- 4) Why did the incident happen?
- 5) When did the incident occur?
- 6) How did the incident happen, how can a recurrence of the incident be prevented?

### **2.5. Q: Which organization established the TLVs?**

2.5. A: American Conference of Governmental Industrial Hygienists (ACGIH)

## ERGONOMICS (ERG)

2.6. Q: List six of the most common physical hazards for musculoskeletal disorders (MSDs).

2.7. Q: Posture describes the positions of the body joints while performing a given task. A neutral posture, or anatomical position, is defined as:

2.8. Q: Muscle effort can be classified as either static (related to maintaining postures) or dynamic (involving movement). Static effort involves what?

2.9. Q: Exposure to whole body and hand-arm vibration has many effects on the body, including the development of MSDs. The physical impact from vibration can do three damaging things to the body. List them.

2.10. Q: Why is the concept of a warm-up is so useful, prior to starting physically demanding activities?

***DON'T LOOK – The Answers are on the next Page!***



## **ERGONOMICS (ERG)**

**2.6. Q: List six of the most common physical hazards for musculoskeletal disorders (MSDs).**

2.6. A: The most common physical hazards for musculoskeletal disorders (MSDs) are:

- 1) awkward postures
- 2) static work
- 3) repetition
- 4) force
- 5) vibration
- 6) temperature extremes
- 7) impact loading

**2.7. Q: Posture describes the positions of the body joints while performing a given task. A neutral posture, or anatomical position, is defined as:**

2.7. A: A neutral posture, or anatomical position, is defined as the alignment of the body when standing in a relaxed upright posture with feet shoulder width apart and both arms hanging relaxed at your sides

**2.8. Q: Muscle effort can be classified as either static (related to maintaining postures) or dynamic (involving movement). Static effort involves what?**

2.8. A: Static effort involves a prolonged contraction of muscles where the body or a joint is held in one position for a period of time.

**2.9. Q: Exposure to whole body and hand-arm vibration has many effects on the body, including the development of MSDs. The physical impact from vibration can do three damaging things to the body. List them.**

2.9. A: The physical impact from vibration can

- 1) stretch ligaments,
- 2) reduce muscle strength, and
- 3) restrict blood flow.

**2.10. Q: Why is the concept of a warm-up is so useful, prior to starting physically demanding activities?**

2.10. With muscle contractions, there is a tendency to exert more force when muscles are cold, which further reduces the blood flow to the tissues.



## **FIRE PREVENTION AND PROTECTION (FPP)**

2.11. Q: Dry Chemical Extinguishing Systems are effective on which three classes of fires?

2.12. Q: The five basic factors that contribute to the effective use of portable fire extinguishers are?

2.13. Q: There are four basic types of automatic sprinkler systems. List them.

2.14. Q: Describe how a deluge system works.

2.15. Q: Where are dry pipe systems best used?

***DON'T LOOK – The Answers are on the next Page!***



## **FIRE PREVENTION AND PROTECTION (FPP)**

**2.11. Q: Dry Chemical Extinguishing Systems are effective on which three classes of fires?**

2.11. A: Dry Chemical Extinguishing Systems are effective on Class A, B, and C fires.

**2.12. Q: List the five basic factors that contribute to the effective use of portable fire extinguishers.**

2.12. A: The five factors are:

- 1) People must be trained in the use and handling of extinguishers.
- 2) Extinguishers must be placed in suitable locations.
- 3) Extinguishers must be in sound working order.
- 4) Suitable types of extinguishers must be provided for the type of hazards likely to be encountered.
- 5) Early warning of the fire is required for the extinguisher to be effective.

**2.13. Q: There are four basic types of automatic sprinkler systems. List them.**

2.13. A: There are four basic types of automatic sprinkler systems. List them.

- 1) wet pipe
- 2) dry pipe
- 3) deluge
- 4) pre-action

**2.14. Q: Describe how a deluge system works.**

2.14. A: In the deluge configuration all sprinkler heads are open and a fire detection system is connected to a sprinkler valve. If fire is detected the valve is opened and water is supplied to all of the sprinkler heads.

**2.15. Q: Where are dry pipe systems best used?**

2.15. The dry pipe system can be used to protect property in areas that are susceptible to freezing temperatures.



## Health and Wellness (HW)

2.16. Q: What is the focus of Secondary Prevention in Health Promotion Programs?

2.17. Q: What is the focus of Tertiary prevention?

2.18. Q: What is a vaccine and how do they work?

2.19. Q: List the Seven Steps to Better Health Promotion suggested by Health Canada.

2.20. Q: What is the Health Surveillance?

***DON'T LOOK – The Answers are on the next Page!***



## Health and Wellness (HW)

### 2.16. Q: What is the focus of Secondary Prevention in Health Promotion Programs?

2.16. A: Emphasizes early diagnosis and treatment for health conditions thereby shortening their severity and duration, enabling individuals to regain normal functioning in a timely manner.

### 2.17. Q: What is the focus of Tertiary prevention?

2.17. A: Tertiary prevention occurs once a health condition or disability becomes stable or is irreversible. The goal is to assist the individual to regain an optimal level of functioning within the constraints of the condition or disability.

### 2.18. Q: What is a vaccine and how do they work?

2.18. A: A vaccine is a biological preparation that improves immunity to a particular pathogen or disease. A vaccine typically contains an agent that resembles the disease-causing microorganism (pathogen), and is often made from weakened or killed forms of the microbe, its toxins, or one of its surface proteins. The agent stimulates the body's immune system to recognize the agent as foreign, destroy it, and "remember" it, so that the person's immune system can more easily recognize and destroy any of these microorganisms in the future

### 2.19. Q: List the Seven Steps to Better Health Promotion suggested by Health Canada.

2.19. A: The Seven Steps to Better Health Promotion suggested by Health Canada

Step 1: Set your communication goals

Step 2: Identify your target audience

Step 3: Decide what you are going to communicate – your strategy

Step 4: Tell your target audience how you can help them

Step 5: Tell your target audience why you can help

Step 6: Decide how to reach your target audience – tactics

Step 7: Evaluate the effectiveness of your communication program

### 2.20. Q: What is the Health Surveillance?

2.20. A: The systematic collection and evaluation of worker data to identify instances of illness or health trends suggesting adverse workplace exposures coupled with actions to reduce hazardous workplace exposures.



## HSE AUDITING (AUD)

2.21. Q: What are the benefits of Scored Instrument Audits? List at least five.

2.22. Q: What are the benefits of Un-scored Instrument Audits? List at least four.

2.23. Q: The key components of an audit proposal letter should include these nine items.

2.24. Q: List at three methods to randomly select those to be interviewed during an audit.

2.25. Q: To ensure that a representative sample of employees is interviewed, the auditor must take into account what factors? List at least five.

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## HSE AUDITING (AUD)

**2.21. Q: What are the benefits of Scored Instrument Audits? List at least five.**

**2.21. A: The benefits of Scored Instrument Audits are:**

- 1) Enable the tracking and measuring of program improvements
- 2) Enable benchmarking among company facilities or branches
- 3) Focus on results rather than auditor style
- 4) Facilitate objectivity
- 5) May require less professional judgment
- 6) Meet the requirement for some certifications

**2.22. Q: What are the benefits of Un-scored Instrument Audits? List at least four.**

**2.22. A: The benefits of Un-scored Instrument Audits are:**

- 1) Give auditors freedom to address systemic issues
- 2) Meet the requirement for some certifications
- 3) Allow for auditor-determined weighting of importance of items
- 4) Do not specify the numbers of interviews required
- 5) Do not result in a focus on “scores”, but rather on findings and recommendations

**2.23. Q: The key components of an audit proposal letter should include these nine items.**

**2.23. A: The key components of an audit proposal letter should include:**

- 1) Introduction
- 2) Identification of health and safety issues of concern to the company
- 3) Choice of audit instrument to be used
- 4) Scope of audit (facilities to be audited, etc.)
- 5) Audit process and schedule □ Sampling strategy
- 6) Audit team (if applicable)
- 7) Administrative details – space required, access, any orientation required, any personal protective equipment required
- 8) Deliverables, including the format, process and timing of report submissions
- 9) Fee structure

**2.24. Q: List at least three methods to randomly select those to be interviewed during an audit.**

**2.24. A: Three common methods are:**

- 1) List all employees and selected every 6<sup>th</sup> one (as an example)
- 2) Draw names out of a hat
- 3) Number each employee and use a computer based random number generator

**2.25. Q: To ensure that a representative sample of employees is interviewed, the auditor must take into account what factors? List at least five.**

2.25. A: The auditor must take into account:

- 1) the number of people who work in the company
- 2) the locations of company facilities
- 3) the major processes/products/services of each facility
- 4) the shifts that are worked
- 5) any seasonal worker fluctuations
- 6) if unions are present
- 7) the utilization of contractors
- 8) any site-specific health and safety concerns.



## Law and Ethics (LE)

2.26. Q: Describe Constitutional Law in Canada.

2.27. Q: Why does Canada's legal system make Canada a "bijural" country?

2.28. Q: Describe the relationship of Criminal Law and Provincial OH&S Statutes.

2.29. Q: Describe Statutory Law.

2.30. Q: Organizations in the federal sector with 300 or more employees must have what kind of committee?

***DON'T LOOK – The Answers are on the next Page!***



## Law and Ethics (LE)

### 2.26. Q: Describe Constitutional Law in Canada.

2.26. A: “Constitutional law” is a superior type of law as it sets the rules for the rest of the legal system. In 1867 Canada was created as a country by a British Act called the British North America Act. It has been the main source of constitutional law in Canada. Canada is a “federal state”, not a “unitary state”, meaning the federal and provincial governments have their own intrinsic jurisdictions. Municipal governments do not have their own constitutional jurisdiction and are created by the Provinces.

### 2.27. Q: Why does Canada’s legal system make Canada a “bijural” country?

2.27. A: Canada is a “bijural” country because the English common law exists in all jurisdictions except Quebec, where civil law is based on a version of the Napoleonic Code. The rules that are in the court cases in common law jurisdictions are in a statutory document called the “civil code” in Quebec. Outside of Quebec the “civil law” usually means the common law.

### 2.28. Q: Describe the relationship of Criminal Law and Provincial OH&S Statutes.

2.28. A: “Criminal law” is always federal. A provincial statute may have fines and a jail sentence, but it’s still not “criminal law”. Most federal criminal law is found in the Canadian Criminal Code. Bill C-45 was a bill that amended the Criminal Code regarding criminal negligence. Provincial Ministries or Departments of Labour do not enforce the Criminal Code. Police officers, however, do.

### 2.29. Q: Describe Statutory Law.

2.29. A: Statutory Law “Statutory law” refers to the laws passed by legislatures. These statutes are usually called Acts. The word “Act” has a capital “A”. We sometimes refer to regulations passed by Cabinets as “statutory law” along with Acts, as they are written in a statutory style and they get their legitimacy from a statute. Regulations are authorized by Acts and do not stand alone. A Cabinet cannot make regulations unless a legislature has delegated that power to them in an Act. Acts are usually more general and “enabling” than regulations, which are more detailed and technical.

### 2.30. Q: Organizations in the federal sector with 300 or more employees must have what kind of committee?

2.30. A: A policy committee, in addition to whatever array of local workplace committees and representatives already exists.



## MANAGEMENT SYSTEMS (MS)

2.31. Q: What does Performance effectiveness measure?

2.32. Q: What does Performance efficiency measure?

2.33. Q: What are Administrators?

2.34. Q: Every manager has one primary responsibility. What is it?

2.35. Q: What is the definition of “skill?”

***DON'T LOOK – The Answers are on the next Page!***



## **MANAGEMENT SYSTEMS (MS)**

### **2.31. Q: What does Performance effectiveness measure?**

2.31. A: Performance effectiveness measures task output or goal accomplishment. If you are a production manager, performance effectiveness means having your work unit meet daily targets of both production quantity and production quality. True productivity, however, requires that you meet these targets while minimizing material resource waste in the process.

### **2.32. Q: What does Performance efficiency measure?**

2.32. A: Performance efficiency measures the material resource costs associated with goal accomplishment – in other words, outputs realized compared to inputs consumed. Common efficiency measures are cost of labour, equipment utilization, facilities maintenance and returns on capital investment. The most efficient manager is one who meets the daily production targets at a minimum cost of materials and labour. True managerial success entails both performance effectiveness and performance efficiency.

### **2.33. Q: What are Administrators?**

2.33. A: Administrators are usually managers who work in public or not-for-profit organizations. Hospital administrators, city administrators and human-service administrators are examples of this role.

### **2.34. Q: Every manager has one primary responsibility. What is it?**

2.34. A: Every manager has one primary responsibility – to help an organization achieve its best performance through the fullest use of all its human and material resources. This means the manager must be able to get things done through other people.

### **2.35. Q: What is the definition of “skill?”**

2.35. A: A skill is an ability to translate knowledge into action that results in desired performance.





## OCCUPATIONAL HYGIENE (OH)

2.36. Q: Describe Local effects of organic solvents.

2.37. Q: Describe Metal Fume Fever and it's causes?

2.38. Q: What is indicated by the term "LD50?"

2.39. Q: Describe four typical control measure for airborne contaminates.

2.40. Q: Describe what a simple asphyxiants is and give examples.

***DON'T LOOK – The Answers are on the next Page!***



## OCCUPATIONAL HYGIENE (OH)

### 2.36. Q: Describe Local effects of organic solvents.

2.36. A: Local effects occur when a chemical comes directly in contact with the body. Examples include organic solvents such as Varsol, paint thinner or degreasing agents. Such solvents can cause cracking, drying and itching of the skin. These solvents extract the natural oils and fat from the skin causing them to become dry and irritated.

### 2.37. Q: Describe Metal Fume Fever and it's causes?

2.37. A: "Metal Fume Fever", which consists of fever, chills and flu-like symptoms, is caused by exposure to freshly generated fumes of zinc or magnesium oxide, produced during welding or soldering operations.

### 2.38. Q: What is indicated by the term "LD50?"

2.38. A: The LD50 is the dose of a chemical which when given to a group of animals on a single occasion will cause death in half (50%) of them. The LD50 is usually expressed as the number of milligrams (mg) of chemical given to the animal per kilogram of its body weight (mg/kg). A high LD50 value means a low toxicity.

### 2.39. Q: Describe five typical control measure for airborne contaminants.

2.39. A: To control the levels of airborne chemical, an occupational hygienist will always recommend engineering controls, such as:

- 1) local ventilation at the source of the contamination
- 2) general ventilation
- 3) isolation of the process
- 4) substitution of the chemical used by something less toxic
- 5) personal protective clothing and equipment (PPE).

### 2.40. Q: Describe what a simple asphyxiant is and give examples.

2.40. A: Simple asphyxiants are inert gases. They cause asphyxiation when present in the atmosphere in sufficient quantities to reduce the amount of oxygen available for breathing. Examples of such substances include nitrous oxide (laughing gas), carbon dioxide, hydrogen, helium and nitrogen.



## **RISK MANAGEMENT (RM)**

2.41. Q: Define Discrete Hazards.

2.42. Q: Define Continuous Hazards.

2.43. Q: Risk can be calculated as the product of two key variables. What are they?

2.44. Q: What is Risk Formula?

2.45. Q: Describe The Event Tree.

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## **RISK MANAGEMENT (RM)**

### **2.41. Q: Define Discrete Hazards.**

2.41 A: Discrete hazards are those that are either present or absent from the exposed worker—such as electrical faults, unsafe mechanical devices, or fire hazards. The risks from discrete hazards are usually defined as the probability (or likelihood) that a harmful incident might occur in the present workplace, keeping in mind existing control measures.

### **2.42. Q: Define Continuous Hazards.**

2.42. Continuous hazards are those that occur all the time at varying levels of exposure—such as hazardous dusts, toxic chemicals, noise levels, and radiation. The risks from exposure to continuous hazards are usually defined by the level of exposure to each individual worker over time periods that range from minutes (peak exposure) to hours (short-term exposure) to years (time-weighted average exposure).

### **2.43. Q: Risk can be calculated as the product of two key variables. What are they?**

2.43. A: Risk can then be calculated as the product of two key variables: 1) the likelihood of effects and 2) severity of effects.

### **2.44. Q: What is Risk Formula?**

2.44. A: This can be summarized as the relationship: Risk = Frequency x Severity

### **2.45. Q: Describe The Event Tree.**

2.45. A: The Event Tree is based on a single primary event that generates subsequent secondary and tertiary events. Each event generates a success and a failure branch (binary branches) and diagrammatically this can be extended to estimate the probable endpoints of concern. The probability of each event can be included within the event tree. Usually, these probabilities are estimated or based on historical records of occurrence.

