HW2 - Ch 1-2

Due Aug 29 at 11:30pm **Points** 25 **Questions** 21
Available after Aug 23 at 12:20am **Time Limit** None **Allowed Attempts** 2

Instructions

Read Chapters 1 & 2 in your textbook *Hazard Analysis Techniques for System Safety*, 2nd Edition, Clifton A. Ericson II (2016).

Answer the questions.

You are allowed up to **two** attempts to take the quiz. Your score will be the **average** of your attempts.

This is an individual assignment. Collaboration or sharing answers with other students is considered cheating.

Study Pro Tips:

- Before you attempt the quiz, read the materials once through, highlighting any important concepts, or making annotations in your book or notes.
- As you complete the quiz, keep your reading open in front of you and refer back during the quiz.
- Refer to your lecture notes and take additional notes as you take the quiz.
- After you take the quiz, make additional notes for future reference and exams.

Take the Quiz Again

Attempt History

	Attempt	Time	Score
LATEST	Attempt 1	2,738 minutes	17.44 out of 25 *

* Some questions not yet graded

Correct answers are hidden.

Score for this attempt: **17.44** out of 25 *
Submitted Aug 29 at 8:38pm
This attempt took 2,738 minutes.

Question 1 — 1 / 1 pts

_____ is the probability that a hazard occurs accompanied by the severity of the resulting outcome.

- A mishap
- An accident
- Risk
- Hazard

Section 1.1

Question 2

1 / 1 pts

The origins of System Safety can be linked to which U.S. government document?

- EPA Risk Management Program
- API 750 Management of Process Hazards
- OSHA PSM - 29 CFR1910.119
- MIL-STD-882 System Safety Standard Practice

Section 1.3

Question 3

1 / 1 pts

A formal approach used to eliminate hazards through engineering, design, education, management policy, and supervisory control of conditions and practices is defined as a(n)

- System Safety Management (SSM)
- Risk Management Plan (RMP)
- System Safety Program (SSP)
- System Safety Engineering (SSE)

Section 1.4

Question 4

1 / 1 pts

Hazards, mishaps, and risk are a reality of life; they are typically the by-product of man-made systems.

- True
- False

Section 1.8 Principles

Question 5

1 / 1 pts

The term applied to a condition, event, operation, process, or item that is identified as either safety-critical or safety-related is considered _____.

- Safety Related (SR)
- Safety Significant
- Safety Critical Item (SCI)
- Safety Critical Function (SCF)
- Safety Critical (SC)

Section 1.8

Question 6

1 / 1 pts

Safety cannot be earned.

- True
- False

Section 1.8 Principles

Question 7

1 / 1 pts

What does Ericson describe as the key to system safety and effective risk management?

- Hazard identification and mitigation
- Risk acceptance

- Risk elimination
- Hazard elimination

Section 1.2

Partial

Question 8

0.92 / 1 pts

Which of the following terms represent a type of system?

Check all that are correct.

- [x] Electrical Power Grid
- [x] Organizational Management Structure
- [x] University
- [x] Aircraft
- [x] Human Integument
- [x] Interstate Highway
- [ ] Elemental Chlorine
- [x] Automobile
- [x] Free Market Economy
- [x] House
- [x] Single Cell Organism
- [x] Family

- [x] Personal Computer
- [ ] Electricity
- [x] Desert
- [ ] Di-hydrogen Monoxide

Section 1.1

Incorrect

Question 9

0 / 1 pts

System Safety as an engineering discipline was originally developed and promulgated to prevent mishaps in which of the following industries?

check all that are correct

- [ ] Military Missiles
- [x] Rail Transportation
- [ ] Military Aviation
- [x] Nuclear Power
- [x] NASA
- [x] Chemical Processing
- [x] Commercial Aviation

Section 1.3

Question 10

1 / 1 pts

In the Engineering Development Lifecycle of a system, when should a System Design Review (SDR) occur?

- (selected) Between concept definition and preliminary design phases
- Between detailed design and test phases
- Between development and production phases
- Between preliminary and detailed design phases

Section 2.5

Question 11

1 / 1 pts

A statement that specifies or describes what the design must do, or what
the design must include, in order for an item to meet its objectives is called a(n) _____.

- Plot Plan
- Specification
- Safety critical component
- (selected) Design requirement

Section 2.11

Question 12

1 / 1 pts

In the Engineering Development Lifecycle of a system, when should a Critical Design Review (CDR) occur?

- (selected) During the detailed design phase
- Between development and production phases
- Between concept definition and preliminary design phases
- Between preliminary and detailed design phases

Section 2.5

Question 13

1 / 1 pts

"The organization of hardware, software, material, facilities, personnel, data, and services needed to perform a designated function within a stated environment with specified results" is a definition of a system provided by _____.

- API 750
- 29CFR1910.119
- EPA RMP
- (selected) MIL-STD-882E

Section 2.1

Question 14

1 / 1 pts

System size and complexity have no impact on system understanding, reliability, or safety.

- True
- False

Section 2.12 System Laws

Question 15

1 / 1 pts

Which of the following system development models has a higher probability for technical risk problems because some elements may be in preproduction before full development and testing?

- Concurrent Engineering
- Engineering Development Model
- Incremental Development
- Spiral Development

Section 2.5

Question 16

1 / 1 pts

Place the life cycle stages of a system in order from first (1) to last (9).

Concept	1
Definition	2
Preliminary Design	3
Detailed Design	4
Development Test	5
Production	6
Operation	7
Decommission	8
Disposal	9

Section 2.4 and lecture notes.

Question 17

1 / 1 pts

Systems have emergent properties (e.g., safety, reliability, and quality) that can vary and change depending upon the system design.

True

False

Section 2.12 System Laws

Incorrect

Question 18

0 / 1 pts

A subset of a system which could include equipment, components, personnel, facilities, processes, documentation, procedures, and software interconnected in the system to perform a specific function that contributes to accomplishing the system objective, is called a(n) _____.

Subsystem

System

Interface

Environment

Section 2.1

Partial

Question 19

0.73 / 1 pts

Provide the following Acronyms meanings mentioned in Chapter 1.

Must be exact for full credit - capitalize the first letter of each word

HTS Hazard Tracking Sy

SSP System Safety Prog

SSPP System Safety Prog

SSR System Safety Req

HAR Hazard Action Rec

SCI Safety-Critical Item

SR Safety-Related

SC Safety-Critical

SCF Safety-Critical Func

HRI Hazard Risk Index

DFS Design For Safety

Answer 1:

Hazard Tracking System

Answer 2:

System Safety Program

Answer 3:

System Safety Program Plan

Answer 4:

System Safety Requirement

Answer 5:

Hazard Action Record

Answer 6:

Safety-Critical Item

Answer 7:

Safety-Related

Answer 8:

Safety-Critical

Answer 9:

Safety-Critical Function

Answer 10:

Hazard Risk Index

Answer 11:

Design For Safety

Ch1

Partial

Question 20

0.8 / 1 pts

Provide the following Acronyms meanings mentioned in Chapter 2.

Must be exact for full credit - capitalize the first letter of each word

SDR System Design Rev

PDR Preliminary Design

CDR Critical Design Rev

TRR Test Readiness Rev

SET System Equipment

HA Hazard Analysis

FFBD Function Flow Bloc

RBD Reliability Block Dia

FMEA Failure Mode and E

SSR System Safety Req

Answer 1:

System Design Review

Answer 2:

Preliminary Design Review

Answer 3:

Critical Design Review

Answer 4:

Test Readiness Review

Answer 5:

System Equipment Table

Answer 6:

Hazard Analysis

Answer 7:

Function Flow Block Diagram

Answer 8:

Reliability Block Diagrams

Answer 9:

Failure Mode And Effects Analysis

Answer 10:

System Safety Requirements

Ch2

Question 21

Not yet graded / 5 pts

Think of any system that you are familiar with (systems mentioned in lecture, or Chapters 1-2 may not be used).

Develop a system diagram using Figure 2.2 in your text as a model.

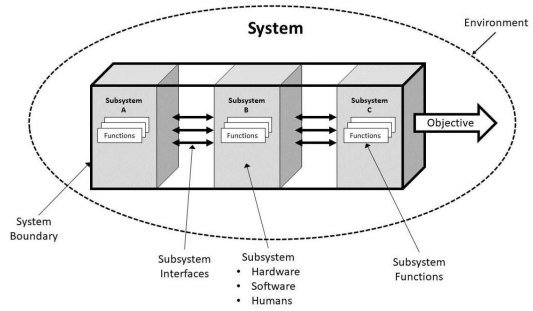

Figure 2.2 System Model -Ericson, C.A., "Hazard Analysis Techniques for System Safety," Wiley, 2005

The diagram of your system should correctly depict and identify (label) the following components of your system:

- System objective
- System environment
- System boundary
- Subsystems
- Subsystem components (hardware, software, people)
- Subsystem functions
- Subsystem interfaces

Upload an image of this diagram. The diagram should be created using electronic means (such as Powerpoint, Visio, MS Paint, Autocad, Revit,

or similar software).

Hand sketches will not be accepted.

System Model.pdf
(https://canvas.okstate.edu/files/15141551/download)

Quiz Score: **17.44** out of 25