



**University of Ruhuna- Faculty of Technology**  
**Bachelor of Engineering Technology Honours**  
**Level 3 (Semester 1) Examination, January 2021**

**Course Unit: TCS3111 Safety and Risk Management**

**Duration: 1.5 hours**

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- Answer all Five (05) questions.
  - Each question carries 14 Marks.



1. An integrated approach is a comprehensive management system for worker health, safety, and well-being that is shaped by employee input and participation.

a) List out three characteristics of an integrated approach towards health and safety. Explain briefly each of them by using two to three sentences.

(04 Marks)

b) List out five key steps in the integrated planning.

(05 Marks)

c) What are the five benefits of integrated approach in health and safety planning?

(05 Marks)

2.

a) List out five direct benefits of intervention of occupational health and safety.

(05 Marks)

b) What are the five key elements of a successful health and safety management program?

(06 Marks)

c) Contrast the two main parts of health and safety monitoring system.

(04 Marks)

3.

a) Name the five steps of a risk management program for industrial health and safety.

(05 Marks)

b) Draw a simple risk matrix showing the relationship between probability and severity of an incident. Identify the four risk levels in the matrix.

(04 Marks)

c) When painting a wall, a step stool must be used to reach high areas. The individual will not be standing higher than 1 meter (3 feet) at any time. What is the corresponding risk level for this activity? Justify your answer.

(04 Marks)



4.

a) Nirmana Construction Company completed the construction of an eight-stored building on time under the estimated budget. However, during the construction process, three severe injuries were reported. Does this company succeed during the project of constructing the building? Justify your answer.

(02 Marks)

b) List out four purposes of Safety Observation System (SOS).

(04 Marks)

c) You, as a works engineer in the workshop of the Engineering Technology department, have been assigned a task to prepare a SOS for the workshop. Name five unsafe actions to add into the SOS card prepared to your workshop.

(05 Marks)

d) As the works engineer, identify three responsibilities in the SOS process.

(03 Marks)

5. Work engineer in the workshop of the Engineering Technology department wants to transport the 3D printing machine to a company for maintenance purposes.

a) List out four ways of risk mitigation in the above process.

(04 Marks)

b) Identify three tasks that work engineer should perform when moving the 3D printing machine.

(03 Marks)

c) Describe two-risk types associated with performing these tasks.

(04 Marks)

d) Explain two ways to mitigate these risks.

(04 Marks)