

## Chapter 2: Licensing of Software Engineers and Safety Critical Systems

### *Quiz Answers*

#### True/False

1. Software engineering is a field that includes software design, writing, and testing, but not maintenance.

False (false—reference slide 2)

2. One of the arguments supporting the licensing of software engineers is that it would reinforce the proper training of the professionals.

True (true—reference slide 5)

3. True or False? Licensure for other fields of engineering is already in existence.

True (true—reference slide 11)

4. True or False? The Software Engineering Coordinating Committee (SWECC) was formed by the IEEE and the ACM to provide a foundation for the licensing of software engineers.

True (true—reference slide 14)

5. True or False? There are no states in the United States that license software engineers.

False (false—reference slide 16)

#### Fill in the Blank

1. Licensing or certification is required for many professions including, teachers, doctors, and \_\_\_\_\_. ( lawyers, dentists, or drivers—reference slide 8)

2. Professional engineers are required to pass two exams to get licensed, the Fundamental of Engineering (FE) exam and the \_\_\_\_\_ exam. (Principles and Practice in Engineering [PE]—reference slide 11)
3. The professional organization that was part of the Software Engineering Coordinating Committee to provide a foundation for the licensing of software engineers, but then decided the field needed to grow more and licensing was not yet appropriate is the \_\_\_\_\_. (Association for Computing Machinery [ACM]—reference slides 14–15)
4. A system whose malfunction can directly affect the safety of people is known as a \_\_\_\_\_. (safety critical system—reference slide 17)
5. The tragedy of over radiating people that was caused by a software malfunction is known as \_\_\_\_\_. (Therac-25—reference slides 16–19)

## Multiple Choice

1. The reasons given in favor of licensing software engineers include the following:
  - A. Increased public assurance with regard to work done and reliability of systems
  - B. More lawsuits
  - C. Reinforcement of proper training
  - D. A and C (A and C—reference slides 5–7)
2. The effect(s) of licensure for software engineers include(s) the following:
  - A. Greater validation as a professional
  - B. Job security
  - C. Greater personal satisfaction
  - D. All of the above (All of the above—reference slides 5–7)
3. The reason(s) given against licensing software engineers include(s):
  - A. Competition between the prominent organizations for designing the relevant exam.
  - B. Too many people overseeing the work done.
  - C. Software quality would not really improve. (Software quality would not really improve—reference slide 9)
  - D. The pay scale for software engineers would dramatically increase.

4. The following topic is not covered on the present licensing exams for engineers:
- A. Mathematics
  - B. Programming (Programming—reference slide 12)
  - C. Ethics
  - D. Engineering economics
5. The following is/are true about the Ariane 5 disaster:
- A. The rocket exploded 40 seconds after lift-off.
  - B. The underlying cause of the explosion was faulty software.
  - C. The rocket was manned and people died.
  - D. A and B (A and B—reference slides 29–31)