

SAMPLE QUESTIONS 3A2 (MULTIPLE CHOICE)

(NOTE: These questions are intended as representations of the style of questions that may appear on examinations, they are not intended as study material and, as such, may not be in line with any current examination syllabus)

Currently all the 3A2 SOPEEC examinations are delivered in a multiple-choice format. Examination candidates have 3.0 hours to answer 100 multiple choice questions. This works out to be 1.8 minutes per question.

To use your time wisely it is recommended that you read through the questions and answer only the questions for which the answer comes to you quickly. Leave other questions and calculation questions for later.

The rules in Section I of the ASME Boiler and Pressure Vessel Code are applicable to boilers in which steam or other vapor is generated at a pressure greater than

- A. 103 kPa and high-temperature water boilers operating above 120°C**
- B. 123 kPa plus high-temperature water boilers operating above 124°C
- C. 153 kPa plus high-temperature water boilers operating above 127°C
- D. 203 kPa plus high-temperature water boilers operating above 133°C

A high percentage of oxygen in the flue gas would indicate there is

- A. excess air**
- B. too much fuel
- C. water in the fuel
- D. SO₂ in the fuel

Mercaptan is added to natural gas to

- A. provide colour to natural gas
- B. assist in leak detection**
- C. increase the octane rating
- D. increase the flash point

An advantage of welded connections over screwed or flanged connections is that the

- A. mass of piping is increased
- B. possibility of leakage is reduced**
- C. need for insulation is eliminated
- D. piping has more rigidity in design

When installing a steam trap, it is important that a _____ be installed upstream to prevent sediment from entering the trap.

- A. diffuser
- B. strainer**
- C. condensate pot
- D. steam separator

Electrical resistance depends not only upon the material used for the conductor, but also upon its

- A. shape and specific gravity
- B. coefficient of expansion and size
- C. temperature and size**
- D. conductivity and flexibility

The number of cycles an alternating voltage completes in one second is called the

- A. frequency**
- B. alternation
- C. capacitance
- D. fluctuation

An electrical source is a

- A. transformer
- B. feeder
- C. battery**
- D. exciter

An electric iron draws a current of 15 amps when connected to a 120 volt power source. Its resistance is

- A. 0.125 ohms
- B. 8 ohms**
- C. 16 ohms
- D. 120 ohms

An alternator is rated at 9,375 KVA at 0.8 power factor. The actual power delivered will be

- A. 9,375 kW
- B. 8,999 kW
- C. 7,500 kW**
- D. 10,000 kW

The difference between the set point and the actual value of the process variable is known as

- A. change
- B. offset**
- C. feedback
- D. gain

800 kPa absolute pressure is equal to _____ gauge, given ambient pressure is 101.3 kPa.

- A. 694.3 kPa
- B. 698.7 kPa**
- C. 700.3 kPa
- D. 898.7 kPa

Accidents should be reported and recorded in order to

- A. find unsafe workers
- B. identify who is responsible
- C. budget for safety training
- D. determine and correct hazardous condition**