

SAMPLE QUESTIONS 3B2 (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 3B2 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.

If steam at high pressure expands through a stationary nozzle, the pressure of the steam

- A. rises and the velocity of the steam decreases
- B. rises and the velocity of the steam increases
- C. drops and the velocity of the steam increases**
- D. drops and the velocity of the steam decreases

A “prime mover” is a machine that converts a source of energy into

- A. electrical energy
- B. mechanical energy**
- C. compressed-air energy
- D. hydro-accumulation energy

Gas turbine blades are cooled in order to increase the

- A. power output of the HRSG
- B. metal temperature out of the turbine
- C. longevity of the blades**
- D. flow rates through each section

The fuel valve closing first on a gas turbine shutdown is a sign of a/an

- A. operator error
- B. emergency shutdown**
- C. failure of the recycle valve
- D. failure of the post lube pump

Scavenging is

- A. used in all diesel engines
- B. the supplying of air for combustion
- C. usually used in four-stroke cycle engines
- D. the removal of exhaust gasses from the cylinder**

The products of nitrous oxides leads to

- A. acid rain**
- B. alkaline corrosion
- C. scaling of the boiler tubes
- D. high pH in the boiler water

Centrifugal air compressors are commonly used for

- A. low speed, high pressure applications
- B. High humidity, low volume applications
- C. Large volume, low pressure applications**
- D. Low volume, high pressure applications

With respect to transmission of fluid, losses are less with air than with steam since none of the air will _____ in the transmission line.

- A. expand
- B. explode
- C. condense**
- D. evaporate

Refrigerants are classified according to

- A. flammability and toxicity**
- B. corrosion potential and toxicity
- C. corrosion potential and flammability
- D. environmental damage potential and flammability

Why are purge valves required on a refrigeration system?

- A. To reduce back pressure on start-up
- B. To remove oil vapours from the system
- C. To remove oil vapours from the system
- D. To remove non-condensable gases from the system**

A key element of writing in log books, memos, and manuals is to

- A. use big words
- B. use only pencil
- C. use long sentences
- D. use precise terminology**

Colloidal materials are

- A. used as coagulants
- B. large particles that settle out by gravity
- C. light matter that will float to the top in a settling tank
- D. very small particles that won't settle or float to the top**