

SAMPLE QUESTIONS 2B1 (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 2B1 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 process used where the turbine rotor is brought up to speed by an electric motor, vibrations are measured, and mass is added or removed to the rotor is called

- A. eccentricity
- B. critical speed
- C. static balancing
- D. dynamic balancing**

Flexible couplings are not intended to overcome shaft misalignment caused by

- A. bearing wear
- B. vibration dampening
- C. careless or faulty assembly**
- D. axial movement of the driven shaft

What should be tested before admitting steam to the turbine?

- A. Drum level trips
- B. Boiler safety valves
- C. Flame-failure device
- D. Emergency trip system**

In compression-ignition engines, what causes spontaneous ignition to occur?

- A. The heat from the glow plug
- B. The arc across the spark plug
- C. The heat from the turbo charger
- D. A high temperature and high compression ratio

Which style of engines are the least efficient because the induction and exhaust processes are less complete?

- A. Two-stroke**
- B. Four-stroke
- C. Spark ignition
- D. Compression ignition

What assembly bypasses unnecessary exhaust gas past the turbocharger in a turbocharged reciprocating internal combustion engine?

- A. The wastegate**
- B. The thermostat
- C. The diverter valve
- D. The hot-gas bypass

In a gas turbine _____ is added to the flue gas prior to the flue gas passing over a catalyst in order to reduce NO_x emissions.

- A. nitrogen
- B. emulsion
- C. methanol
- D. ammonia**

Before admitting fuel to the combustor of a gas turbine, the combustor needs to be

- A. purged**
- B. brushed
- C. warmed up
- D. disengaged

Fast shutdown of a gas turbine unit is

- A. quite similar to the normal unit shutdown
- B. not permitted, as it decreases the life cycle of the unit
- C. initiated by the Chief Engineers only as it is their responsibility
- D. initiated when a protective device detects an abnormal condition**

Which solid lubricant is normally obtained from coke or anthracite coal in flake form, which is milled, used in the dry form and mixed?

- A. Talc
- B. Mica
- C. Barium
- D. Graphite**

_____ is an effective, fully computerized inspection method for the detection and sizing of flaws with a high rate of accuracy.

- A. Visual testing
- B. Hydrostatic testing
- C. Liquid penetrant testing
- D. Time-of-flight diffraction**

Which type of diagram is a simplified schematic of a plant, or portion of a plant, which shows only the major equipment items and the major flow streams?

- A. P&ID diagram
- B. Isometric drawing
- C. Piping spool drawing
- D. Process flow diagram**