

# Industrial Maintenance Technology: Maintaining Industrial Equipment

Practice and perform safe shop procedures at all times. **MIE1**

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**1** Practice and perform safe shop procedures at all times. **MIE1**

Apply the technical math required for employment opportunities in maintenance. **MIE2**

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**2** Apply the technical math required for employment opportunities in maintenance. **MIE2**

Perform all duties with emphasis on **MIE3**

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**a** integrity **MIE3A**

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**b** responsibility **MIE3B**

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**c** quality **MIE3C**

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**d** discipline **MIE3D**

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**e** teamwork **MIE3E**

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Describe the care and safe use of maintenance tools, equipment and components, such as lock-out/tag-out, rigging, electrical safety. **MIE4**

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**4** Describe the care and safe use of maintenance tools, equipment and components, such as lock-out/tag-out, rigging, electrical safety. **MIE4**

Describe lubrication techniques used on machines and components. **MIE5**

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**5** Describe lubrication techniques used on machines and components. **MIE5**

Identify various types of bearings and seals. **MIE6**

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**6** Identify various types of bearings and seals. **MIE6**

**Explain the replacement procedure for bearings and seals. MIE7**

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**7 Explain the replacement procedure for bearings and seals. MIE7**

**Explain alignment of couplings using straight edge and feeler gauge, dial indicator methods, and laser. MIE8**

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**8 Explain alignment of couplings using straight edge and feeler gauge, dial indicator methods, and laser. MIE8**

**Explain the mounting and operation of centrifugal pumps and motors. MIE9**

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**9 Explain the mounting and operation of centrifugal pumps and motors. MIE9**

**Explain the mounting and operation of speed reduction/speed increase assemblies. MIE10**

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**10 Explain the mounting and operation of speed reduction/speed increase assemblies. MIE10**

**Explain the mounting and operation of clutch and brake assemblies. MIE11**

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**11 Explain the mounting and operation of clutch and brake assemblies. MIE11**

**Identify common belts, such as V-Belt and timing. MIE12**

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**12 Identify common belts, such as V-Belt and timing. MIE12**

**Explain the tensioning and alignment of various belts. MIE13**

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**13 Explain the tensioning and alignment of various belts. MIE13**

**Identify common types of chains, such as roller and silent. MIE14**

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**14 Identify common types of chains, such as roller and silent. MIE14**

**Explain the tensioning and alignment of various chains. MIE15**

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**15 Explain the tensioning and alignment of various chains. MIE15**

**Explain the alignment of sprockets and sheaves. MIE16**

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**16 Explain the alignment of sprockets and sheaves. MIE16**

**Explain the installation and adjustment variable of pitch sheaves.** MIE17

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**17 Explain the installation and adjustment variable of pitch sheaves.** MIE17

**Explain the common types of gears, such as spur and helical.** MIE18

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**18 Explain the common types of gears, such as spur and helical.** MIE18

**Describe the maintenance of open and closed gearing.** MIE19

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**19 Describe the maintenance of open and closed gearing.** MIE19

**Explain the diametral pitch and gear meshing.** MIE20

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**20 Explain the diametral pitch and gear meshing.** MIE20

**Explain vibration analysis in troubleshooting.** MIE21

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**21 Explain vibration analysis in troubleshooting.** MIE21

**Identify various fasteners, key and keyways, and bolts.** MIE22

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**22 Identify various fasteners, key and keyways, and bolts.** MIE22

**Explain set-up, lighting and using oxyfuel cutting equipment.** MIE23

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**23 Explain set-up, lighting and using oxyfuel cutting equipment.** MIE23

**Perform lubrication techniques on machines and components.** MIE24

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**24 Perform lubrication techniques on machines and components.** MIE24

**Replace bearings and seals.** MIE25

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**25 Replace bearings and seals.** MIE25

**Align couplings using straight edge and feeler gauge, dial indicator methods, and laser.** MIE26

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**26 Align couplings using straight edge and feeler gauge, dial indicator methods, and laser.** MIE26

**Mount and operate centrifugal pumps and motors.** MIE27

**27 Mount and operate centrifugal pumps and motors.** MIE27

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**Mount and operate speed reduction/speed increase assemblies.** MIE28

**28 Mount and operate speed reduction/speed increase assemblies.** MIE28

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**Mount and operate clutch and brake assemblies.** MIE29

**29 Mount and operate clutch and brake assemblies.** MIE29

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**Adjust tension and alignment of various belts** MIE30

**30 Adjust tension and alignment of various belts** MIE30

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**Adjust tension and alignment of various chains.** MIE31

**31 Adjust tension and alignment of various chains.** MIE31

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**Align sprockets and sheaves.** MIE32

**32 Align sprockets and sheaves.** MIE32

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**Install and adjust pitch sheaves.** MIE33

**33 Install and adjust pitch sheaves.** MIE33

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**Maintain open and closed gearing.** MIE34

**34 Maintain open and closed gearing.** MIE34

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**Use vibration analysis in troubleshooting.** MIE35

**35 Use vibration analysis in troubleshooting.** MIE35

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**Perform straight line, piercing, beveling with oxyfuel cutting equipment.** MIE36

**36 Perform straight line, piercing, beveling with oxyfuel cutting equipment.** MIE36