Kentucky CTE

Advanced Manufacturing: Industrial Maintenance Technology: Maintaining Industrial Equipment 470318 (2026–2027)

Practice and perform safe shop procedures at all times. 1	1 Practice and perform safe shop procedures at all times. 1
Apply the technical math required for employment opportunities in maintenance. 2	2 Apply the technical math required for employment opportunities in maintenance. 2
Perform all duties with emphasis on integrity, responsibility, quality, discipline and teamwork. 3	3 Perform all duties with emphasis on integrity, responsibility, quality, discipline and teamwork. 3
Describe the care and safe use of maintenance tools, equipment and components, such as lock-out/tag-out, rigging, and electrical safety. 4	4 Describe the care and safe use of maintenance tools, equipment and components, such as lock-out/tag-out, rigging, and electrical safety. 4
Describe lubrication techniques used on machines and components. 5	5 Describe lubrication techniques used on machines and components. 5

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Identify various types of bearings and seals. 6	6 Identify various types of bearings and seals. 6
Explain the replacement procedure for bearings and seals. 7	7 Explain the replacement procedure for bearings and seals. 7
Explain the alignment of couplings using straight edge and feeler gauge, dial indicator methods, and laser. 8	8 Explain the alignment of couplings using straight edge and feeler gauge, dial indicator methods, and laser. 8
Explain the mounting and operation of centrifugal pumps and motors. 9	9 Explain the mounting and operation of centrifugal pumps and motors. 9
Explain the mounting and operation of speed reduction/speed increase assemblies. 10	10 Explain the mounting and operation of speed reduction/speed increase assemblies. 10
Explain the mounting and operation of clutch and brake assemblies. 11	11 Explain the mounting and operation of clutch and brake assemblies. 11
Identify common belts, such as V-Belt and timing. 12	12 Identify common belts, such as V-Belt and timing. 12
Explain the tension and alignment of various belts. 13	13 Explain the tension and alignment of various belts. 13
Identify common types of chains, such as roller and silent. 14	14 Identify common types of chains, such as roller and silent. 14
Explain the tensioning and alignment of various chains. 15	15 Explain the tensioning and alignment of various chains. 15
Ex sp sheaves. 16	Explain the alignment of sprockets and sheaves. 16

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Explain the installation and adjustment variable of pitch sheaves. 17

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

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

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

Describe the maintenance of open and closed gearing. 19

19 Describe the maintenance of open and closed gearing. 19

Explain the diametral pitch and gear meshing. 20

20 Explain the diametral pitch and gear meshing. 20

Explain vibration analysis in troubleshooting. 21

21 Explain vibration analysis in troubleshooting. 21

Identify various fasteners, keys, keyways, and bolts. 22

22 Identify various fasteners, keys, keyways, and bolts. 22

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

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

Perform lubrication techniques on machines and components. 24

24 Perform lubrication techniques on machines and components. 24

Replace bearings and seals. 25

25 Replace bearings and seals. 25

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

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

Mount and operate centrifugal pumps and mo

27 Mount and operate centrifugal pumps and motors. 27

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Mount and operate speed reduction/speed increase assemblies. 28

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

Mount and operate clutch and brake assemblies. 29

29 Mount and operate clutch and brake assemblies. 29

Adjust tension and alignment of various belts. 30

30 Adjust tension and alignment of various belts. 30

Adjust tension and alignment of various chains. 31

31 Adjust tension and alignment of various chains. 31

Align sprockets and sheaves. 32

32 Align sprockets and sheaves. 32

Install and adjust pitch sheaves. 33

33 Install and adjust pitch sheaves. 33

Maintain open and closed gearing. 34

34 Maintain open and closed gearing. 34

Use vibration analysis in troubleshooting. 35

35 Use vibration analysis in troubleshooting. 35

Perform straight line, piercing, and beveling with oxyfuel-cutting equipment. 36

36 Perform straight line, piercing, and beveling with oxyfuel-cutting equipment. 36