MULTIPLE CHOICE TEST

1. Which of the listed methods is applicable to the oxidation of steel?
   a   Mechanical
   b   Injection
   c   Chemical
   d   Sparking

2. Which of the following statements applies to the punching?
   a   Performs in hot without significantly change the volumetric shape of the work piece
   b   Performs in cold without significantly change the volumetric shape of the work piece
   c   Performs in hot with significantly change the volumetric shape of the work piece
   d   Performs in cold with significantly change the volumetric shape of the work piece

3. Which of the following statements describes the process of the roll forging?
   a   Force spending between rotating metal rollers
   b   Dispersion of metal between the rolls
   c   Cut the metal with rollers
   d   Punching metal with rollers

4. What is the main requirement for the welding of low carbon steels?
   a   Both pieces are chemical resistant
   b   Both pieces are not chemical resistant
   c   Both pieces are of varying strength
   d   Both pieces have the same strength
5. Which of these instruments belongs to circular abrasive tools?
   a  File for cutting, grinding, teeth grinding, etc.
   b  Saw for cutting, grinding, teeth grinding, etc.
   c  Knife for cutting, grinding, teeth grinding, etc.
   d  Disc for cutting, grinding, teeth grinding, etc.

6. Best way to find gas leakage are?
   a  by flame
   b  by sniff
   c  by matchstick
   d  by soap solution

7. Who is able to repair electrical problems of power tools?
   a  educated student
   b  student by teacher monitoring
   c  teacher
   d  electrician

8. Roller meter exactness is?
   a  0,2 mm
   b  0,5 mm
   c  1,0 mm
   d  5,00 mm
9. Under what thickness are sheet metal calling plates?
   
   a  [ ] 1,00 mm  
   b  [ ] 1,5 mm  
   c  [ ] 3,00 mm  
   d  [ ] 5,00 mm  

10. Steel is…?
   
   a  [ ] alloy of iron and carbide  
   b  [ ] alloy of graphite and carbon  
   c  [ ] alloy of iron and carbon  
   d  [ ] sintered magnetite  

11. If you are drilling a too big pre-hole – what will follow?
   
   a  [ ] tight thread  
   b  [ ] threading tap breaking.  
   c  [ ] loose thread  
   d  [ ] big threading pressure  

12. In bench grinding machine, between grinding stone and support cap to be maximum?
   
   a  [ ] 0,5 mm  
   b  [ ] 2,00 mm  
   c  [ ] 6,00 mm  
   d  [ ] 12,00 mm
13. Steel contains maximum on carbon of...?

a  1,0 %
b  1,7 %
c  2,5 %
d  3,0 %

14. Brazing change to soldering at which temperature?

a  230 C
b  325 C
c  450 C
d  575 C

15. Flame cutting uses which gas mixture?

a  oxygen - hydrogen
b  oxygen - acetylene
c  oxygen – carbon dioxide
d  oxygen - argon

16. Welding groove preparation in assembly are best to doing by?

a  face grinder
b  bench grinding machine
c  abrasive belt grinder
d  angle grinder
17. What is the value in mm corresponding to 1 inch?

a  25 mm  
b  2,45 cm  
c  24,5 mm  
d  25,4 mm

18. What is the “clear” diameter for a “medium size through hole” to let pass trough a M8 Screw?

a  8 mm  
b  9 mm  
c  10 mm  
d  12 mm

19. What is the appropriate relation between rotation speed for drilling, and respective drilling tool?

a  The bigger the diameter of the drill, the higher the rotation speed should be  
b  The bigger the diameter of the drill, the lower the rotation speed should be  
c  The rotation speed of a drill does not depend on its diameter  
d  The rotation speed of a drill must be always higher than 1000rpm
20. What does it mean the following image?

A. American projecting method
B. European projecting method
C. None of the previous methods
D. Method of isometric perspective

21. Which of the following designations of steels is the most widely used in welding structures?

A. CK45 / 1045
B. CK60 / 1060
C. ST37-3 / A284Gr.D
D. GG25 / A48-40B

22. What type of gas is used in MIG welding process?

A. CO2
B. Oxygen
C. Argon
D. Acetylene
23. Look at the picture and say what measure is being read into the caliper?

![Caliper Image]

- a) 59.3 mm
- b) 71 mm
- c) 73 mm
- d) 69.3 mm

24. Which is the length of the stretch out of a circumference, if its diameter is 450 mm?

- a) 1,414 mm
- b) 2,862 mm
- c) 900 mm
- d) 2,826 mm

25. In an industrial drawing, what do regularly broken lines _ _ _ _ _ mean?

- a) The visible edges of the represented shapes
- b) The circumferences axes, holes and curves of the represented shapes
- c) The hidden, invisible edges of the represented shapes
- d) They are auxiliary lines to identify cuts, sections and to dimension the represented shapes
26. Which gases are used to protect the stainless steel and aluminium weldings with T.I.G (GTAW) procedure?

a. Carbon Dioxide  
b. Argon / Helium  
c. Nitrogen  
d. Oxygen + CO2

27. Which materials could be cut with a plasma cutting equipment?

a. Only low alloys of steel and carbon  
b. Only aluminium and titanium  
c. Electrical conductor metals  
d. Methacrylates and polymers

28. Which is the difference between these two coated electrodes for shield metal arc welding, SMAW?
- Rutile AWS E-6013  
- Basic AWS E-7018

a. The basic one E–7018 has higher tensile strength than rutile  
b. Rutile E–6013 has higher tensile strength than basic  
c. Basic E–7018 is stainless and rutile is not  
d. Both might also be used with T.I.G (GTAW) procedure
29. AISI 316 steel is an austenitic stainless steel, but it includes an (L) at the end, that is, AISI 316 L, which is the difference?

a. It does not have Nickel in its composition
b. It does not have Chromium in its composition
c. It has extra low content of Carbon
d. It has higher contents of Carbon in its composition

30. Which of the 3 manual procedures of welding provides higher productivity in any welding construction process?
   - Shielded metal arc welding (SMAW)
   - Semiautomatic M.I.G, M.A.G (GMAW)
   - T.I.G (GTAW)

a. T.I.G (GTAW) procedure
b. Semiautomatic M.I.G, M.A.G (GMAW) procedure
c. Shielded metal arc welding (SMAW)
d. The three have the same productivity

31. 1000 µm means?

a. 1 mm
b. 1 m
c. 1000 mm
d. 10 cm
32. The right working temperature of a gauge is?

a  15 C
b  20 K
c  20 C
d  25 C

33. 10 MW means?

a  10 MilliWatt
b  10 MegaWatt
c  10 MicroWatt
d  10 KiloWatt

34. In the technical drawings, scale means?

a  Ratio between two representatives dimensions
b  Ratio between drawing dimensions and real dimensions
c  Ratio between real dimensions and drawing dimensions
d  Drawing measure’s reduction

35. Basic size is?

a  The dimension aimed by the designer
b  The average dimension between lower and upper deviation
c  The fundamental deviation
d  The number over the dimension line
36. Besides Iron and Carbon, in the steel there are always alloy elements

a. Yes, in trace
b. No, never
c. Yes, only if weakly bound
d. No, unless there are processing errors

37. Cast iron is better than steel in?

a. Mechanical strength
b. Resilience
c. Weldability
d. Casting

38. For working with machine tools is better?

a. A nodular cast iron
b. A mild steel
c. A structural steel
d. An alloy steel with sulfur and lead

39. What types of files are there?

a. Flat file
b. Curved file
c. Round file
d. Wing file
40. What clamping devices can be used to hold workpieces for machining?

a. Anvil  
b. Vice clamps  
c. Clamps  
d. Vice

41. Which methods belong to the shape cutting process?

a. Filing  
b. Drilling  
c. Welding  
d. Soldering

42. What does the feed rate depend on when drilling?

a. Air pressure  
b. Clamping device  
c. Workpiece material  
d. Drill bit material

43. Which process is grinding a part of?

a. Joining process  
b. Printing process  
c. Chip-removing process  
d. Casting process
44. Which abrasive has the highest degree of hardness?
   a  Corundum
   b  Silicon carbide
   c  Boron nitride
   d  Diamond

45. What is not one of the working rules of tapping??
   a  Drill the core hole in the required size
   b  Ream the core hole to the exact dimension
   c  Countersink the core hole
   d  Use a suitable threading fluid

46. Watts are used to measure/determine which of the following values??
   a  Work
   b  Power
   c  Output
   d  Mass

47. Which angle does not occur with tools for cutting and shaping (e.g.: files, chisels)?
   a  Fracture angle
   b  Clearance angle
   c  Wedge angle
   d  Rake angle
48. What tooth forms can saw blades have?

a. Curved tooth
b. Blind tooth
c. Union tooth
d. Angular tooth

49. Which of the listed parts belong to a file?

a. Tang
b. Blade
c. Handle
d. Mantle

50. What does the value 235 stand for in the steel designation”S235J0”?

a. Weight
b. Yield strength
c. Toughness
d. Tensile strength