Unit 3 - Week 1: Fundamentals of metal working

Assignment 1

The due date for submitting this assignment has passed.
As per our records you have not submitted this assignment.

Due on 2019-08-14, 23:59 IST.

1) During uniaxial tensile testing the necking starts at _____. *1 point*

- (a) Yield point
- (b) Ultimate tensile strength point
- (c) Fracture point
- (d) Elastic point

No, the answer is incorrect.
Score: 0
Accepted Answers:
(b) Ultimate tensile strength point

2) During uniaxial tensile testing plastic deformation starts at _____. *1 point*

- (a) Yield point
- (b) Ultimate tensile strength point
- (c) Fracture point
- (d) Elastic point

No, the answer is incorrect.
Score: 0
Accepted Answers:
(a) Yield point

3) Stress necessary for plastic deformation increases due to____. *1 point*

- (a) Elastic properties
- (b) Strain hardening
- (c) All of the above
- (d) None of the above

No, the answer is incorrect.
Score: 0
Accepted Answers:
(b) Strain hardening

4) The condition for instability in uniaxial tensile loading is _____. *1 point*

- (a) dσ/dε=σ
- (b) dP=1
- (c) dε/dσ=σ
- (d) P=0

No, the answer is incorrect.
Score: 0
Accepted Answers:
(a) dσ/dε=σ

5) Which of the following is the correct relationship between engineering strain and true strain? *1 point*

- (a) ε=ln(1+e)
- (b) ε=ln(1-e)
- (c) ε=log(1+e)
- (d) e=log(1+ε)

No, the answer is incorrect.
Score: 0
Accepted Answers:
(a) ε=ln(1+e)

6) A test specimen is stressed slightly beyond yield point and then unloaded. Its yield strength *1 point*

- (a) Decreases
- (b) Increases
- (c) Remains same
- (d) Becomes equal to UTs

No, the answer is incorrect.
Score: 0
Accepted Answers:
(b) Increases

7) A bar of length 50 mm is uniformly extended up to length 100 mm. The true strain is ___. *1 point*

- (a) 2
- (b) 1
- (c) 0.238
- (d) 0.693

No, the answer is incorrect.
Score: 0
Accepted Answers:
(d) 0.693

8) A bar 10 cm long is elongated to 20 cm by rolling in three steps: 10 cm to12 cm, 12 cm to 15 cm, and 15 cm to 20 cm. calculate the sum of engineering strain. *1 point*

- (a) 1
- (b) 0.783
- (c) 1.6
- (d) 2.3

No, the answer is incorrect.
Score: 0
Accepted Answers:
(b) 0.783

9) Cold working produces the following effects 1.Stresses are set up in the material 2.Grain structure get distorted 3.Strength and hardness of the metal are decreased 4.Surface finish is reduced Which of the statements given above are correct? *1 point*

- (a) 1&2
- (b) 1,2&3
- (c) 3&4
- (d) 1 and 4

No, the answer is incorrect.
Score: 0
Accepted Answers:
(a) 1&2

10)If the true-stress and true-strain curve is given by $\sigma=1500\ \varepsilon^{0.33}$ where stress is in MPa, what is the ultimate tensile strength of the material? *1 point*

- (a) 748 MPa
- (b) 1040 MPa
- (c) 3152 MPa
- (d) 1500 MPa

No, the answer is incorrect.
Score: 0
Accepted Answers:
(a) 748 MPa

11)Compare to hot working, in cold working, *1 point*

1. higher forces are required
2. No heating is required
3. less ductility is required
4. Better surface finish is obtained

Which of the statements given above are correct?

- (a) 1,2
- (b) 1,2 & 4
- (c)1 & 3
- (d) 2,3 and 4

No, the answer is incorrect.
Score: 0
Accepted Answers:
(b) 1,2 & 4

12)A copper wire of 25 mm dia. is reduced to 5 mm dia. by drawing operations. What will be the average yield strength in this operation if the flow curve is given by $\sigma=315\ \varepsilon^{0.54}$ MPa *1 point*

- (a) 592 MPa
- (b) 450 MPa
- (c) 332 MPa
- (d) 612 MPa

No, the answer is incorrect.
Score: 0
Accepted Answers:
(a) 592 MPa

13)Match the correct combination for following metal working processes *1 point*

A. Blanking	1. Tension
B. Stretch forming	2. Compression
C. Coining	3. Shear
D. Deep drawing	4. Tension and Compression
	5. Tension and Shear

- (a) A-2, B-1, C-3, D-4
- (b) A-3, B-4, C-1, D-5
- (c) A-3, B-1, C-2, D-4
- (d) A-5, B-4, C-3, D-1

No, the answer is incorrect.
Score: 0
Accepted Answers:
(c) A-3, B-1, C-2, D-4