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Unit 3 - Week 2

Assignment No. 2

The due date for submitting this assignment has passed. Due on 2019-08-21, 23:59 IST.
As per our records you have not submitted this assignment.

1) Most suitable method for surface hardening of thin sheets of hardenable steels is ***1 point***

- Flame hardening
- Induction hardening
- Plasma hardening
- Laser beam hardening

No, the answer is incorrect.
Score: 0

Accepted Answers:
Laser beam hardening

2) The method that gives best surface finish after surface modification is ***1 point***

- Roll bonding
- Burnishing
- Shot peening
- Induction hardening

No, the answer is incorrect.
Score: 0

Accepted Answers:
Induction hardening

3) Surface modified technique involving melting of both the substrate & coating material is ***1 point***

- Shot peening
- Flame hardening
- Laser cladding
- HVOF spraying

No, the answer is incorrect.
Score: 0
Accepted Answers:
Laser cladding

4) Properties mandatory for designing of gear teeth are ***1 point***

- Hardness
- Fatigue resistance
- Toughness
- All of the above

No, the answer is incorrect.
Score: 0
Accepted Answers:
All of the above

5) Unit of surface energy is ***1 point***

- J/mm^3
- J/m^3
- J/m^2
- J-m^2

No, the answer is incorrect.
Score: 0
Accepted Answers:
J/m^2

6) Choose the correct statement(s) ***1 point***

I. Surface energy required for covalent bond is 100 to 500 MJ/m^2
II. Surface energy required for ionic bond is 1000-3000 MJ/m^2
III. Surface energy required for molecular bond is < 100 MJ/m^2

- I & II
- II & III
- III
- I, II & III

No, the answer is incorrect.
Score: 0
Accepted Answers:
III

7) Chemistry of the substrate is modified during ***1 point***

- Thermal spraying
- Burnishing
- Nitriding
- Laser Hardening

No, the answer is incorrect.
Score: 0
Accepted Answers:
Nitriding

8) Choose the correct statement, regarding improvement of wear resistance in surface modification by changing the chemical composition ***1 point***

I. Low stacking fault energy (SFE) results in low wear resistance.
II. High SFE results in high wear resistance
III. Low SFE results in high wear resistance
IV. Presence of discrete hard micro constituents increases wear resistance

- I & IV
- II & IV
- III & IV
- Only IV

No, the answer is incorrect.
Score: 0

Accepted Answers:
III & IV

9) The mechanical properties/adhesive wear resistance affected by shape & size of grains are ***1 point***

I. Surface energy
II. Yield strength
III. Hardness
IV. Cracking tendency

- I & II
- I, II & III
- I & III
- I, II, III & IV

No, the answer is incorrect.
Score: 0

Accepted Answers:
I, II, III & IV

10) Surface roughness increases tendency of ***1 point***

- Stress Corrosion Cracking
- Wear
- Surface Fatigue
- All of the above

No, the answer is incorrect.
Score: 0

Accepted Answers:
All of the above