

Unit 2 - Week 1

Course outline

How does an NPTEL online course work?

Week 1

Tribology: Introduction

Surfaces and contacts

Friction: Laws and mechanisms

Contact temperature

Lubrication

Quiz : Assignment 1

Solution For Assignment 1

Week 2

Week 3

Week 4

Week 5

Week 6

Week 7

Week 8

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WEEKLY FEEDBACK

Assignment 1

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

Due on 2020-02-12, 23:59 IST.

1) Tribology is dependent property.

1 point

- system
 hardness
 toughness
 strength

No, the answer is incorrect.
Score: 0

Accepted Answers:
system

2) The statement "High friction ensures higher wear." is

1 point

- Always true
 Always false
 Not always true

No, the answer is incorrect.
Score: 0

Accepted Answers:
Not always true

3) Among the following, the most preferred surface roughness parameter for recording minute characteristics of surface roughness is

1 point

- Ra
 Rq
 Rp

No, the answer is incorrect.
Score: 0

Accepted Answers:
Rq

4) During running-in-period of sliding, the coefficient of friction typically

1 point

- increases
 decreases
 remains constant
 none of the above

No, the answer is incorrect.
Score: 0

Accepted Answers:
increases

5) Typical characteristics of a lubricant in a sliding contact include:

1 point

- a) viscosity
 b) surface tension
 c. both a and b
 d. none of the given options

No, the answer is incorrect.
Score: 0

Accepted Answers:
c. both a and b

6) In lubricated sliding contact, the coefficient of friction is

1 point

- independent of surface roughness
 dependent on sliding velocity
 constant irrespective of sliding velocity
 always higher for smoother surfaces

No, the answer is incorrect.
Score: 0

Accepted Answers:
dependent on sliding velocity

7) Select the appropriate combination of material pair and flash temperature rise in dry unlubricated sliding conditions

1 point

	Material pair	Flash temperature rise (in K)
(i).	Steel vs. copper in ambient	(I) 473
(ii).	Steel vs. steel in vacuum	(II)1273
(iii).	Steel vs. steel in ambient	(III)773

- i- I
 i-II
 ii-III
 iii-II

No, the answer is incorrect.
Score: 0

Accepted Answers:
i- I

8) The coefficient of friction of ceramics under oil lubrication is typically low, because of

1 point

- cracking
 tribochemical reaction
 abrasion
 none of the above

No, the answer is incorrect.
Score: 0

Accepted Answers:
tribochemical reaction

9) Choose correct contact radius for two steel balls sliding in dry unlubricated sliding conditions. The radii of the balls are 5×10^{-3} m and 7.5×10^{-3} m; The normal force is 10N; The Young's modulus for both balls is 2×10^{11} Pa; Poisson's ratio of steel is 0.3.

- 1.5 centi meters
 1.5 milli meters
 1.5 micron meters

No, the answer is incorrect.
Score: 0

Accepted Answers:
1.5 milli meters