

Name:

Enrolment No:



UNIVERSITY OF PETROLEUM AND ENERGY STUDIES
End Semester Examination, May 2019

Course: Tribology
Program: Automotive design engineering
Course Code: ADEG353

Semester: VI
Time 03 hrs.
Max. Marks: 100

Instructions:

SECTION A

S. No.		Marks	CO
Q 1.	Explain the need of additives.	4	CO1
Q2.	Explain working of the grease.	4	CO1
Q3.	Explain surface roughness, waviness, flaw, and Lay.	4	CO1
Q4.	Explain ploughing effect on surfaces.	4	CO1
Q5.	Differentiate between hydrodynamic and hydrostatic bearing.	4	CO1

SECTION B

Q 6	Explain the electroplating method of surface improvement.	10	CO2
Q7	Explain seven mechanism of material loss.	10	CO2
Q8	Derive Archard's equation of adhesive wear.	10	CO3
Q9	Classify the liquid lubricants. Also, discuss their advantages and disadvantages. OR Explain anti-oxidant additives and pour point depressants.	10	CO3

SECTION-C

Q10	Explain elasto hydro dynamic lubrication. Deduce hertz equation of contact pressure and elastic deformation.	20	CO4
Q11	Derive Reynold's general equation of fluid film lubrication. OR Derive equation for load carrying capacity and pressure distribution in infinity long plane fixed sliders bearing.	20	

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