Name:

Enrolment No:

UNIVERSITY OF PETROLEUM AND ENERGY STUDIES

End Semester Examination, December- 2019

Programme Name: B. Tech, Mining Engg **Semester: V**

Course Name: Mineral Processing Technology **Time: 03 hrs**

Course Code: PEMI 3002 **Max. Marks: 100**

Nos. of page(s):01

SECTION A (20 Marks)

S. No.		Marks	CO
Q 1	Differentiate between hydraulic & mechanical classifiers	**05**	**CO3**
Q 2	Discuss the various techniques used in coal processing	**05**	**CO4**
Q 3	How interlocking of mineral grains affects efficiency in mineral processing?	**05**	**CO1**
Q 4	How Diffraction & Fluorescence are important in Mineral Quality Analyses?	**05**	**CO2**
SECTION B (40 Marks)			
Q 5	Does Coal Preparation includes washing? How density plays a major role in coal washing?	**10**	**CO4**
Q 6	Match the following & frame the sentences A: Oxyhydryl; Scanning coil; Carboxylates; Cuprite; Mercaptan B: Thiol; Fatty acids; SEM; Soaps; Sodium Sulphide	**2*5= 10**	**CO2**
Q 7	Examine the effect of sorting, mineral assemblage on mineral processing	**10**	**CO1**
Q 8	Explain how Peak intensity in X-Ray diffraction is governed by Bragg's Law **OR** Is Interaction volume a function of scattering of incident beam? How will it vary with atomic number?	**10**	**CO2**
SECTION-C (40 Marks)			
Q 9	What is Envelope of zero vertical velocity? How particles behave in this zone and beyond this zone	**20**	**CO3**
Q 10	Why Collector needs to be adsorbed on mineral surface rather than absorbed? With suitable sketch, illustrate & describe the adsorption mechanism **OR** Establish the inter-dependency of Contact angle, Surface tension & work of adhesion.	**10+10** **20**	**CO2**