10/08_EC-II_FE_Sem II (R-19)_Inst Name

University of Mumbai

* Required

EC-II_PART-B

1. Q1

	Solve <u>any Three</u> out of Five Questions **5 marks each**
A	Write conventional and green synthesis of Indigo dye. Which principle of the green chemistry is supported by the green route?
B	Explain protection of metallic object by impressed current method.
C	A gaseous sample of the fuel has following composition by volume. $CH_4 = 13\%$ $C_2H_6 = 27\%$ $C_3H_8 = 35\%$ $C_4H_{10} = 10\%$ $O_2 = 4\%$ $N_2 = 6\%$ $CO = 5\%$ Calculate volume of air required by 5 m^3 of this fuel for its complete combustion.
D	Differentiate between: Galvanizing and Tinning.
E	Calculate EMF of the following Galvanic cell. [Given: E^o Ag = 0.799V and E^o Cr = - 0.740 V] (-) Cr (s) / Cr^{3+} (0.1M, aq.) // Ag^+ (0.01M, aq.) / Ag (s) (+)

Files submitted:

2. Q2

	Solve any Three out of Five Questions **5 marks each**
A	Write a short note on Galvanic Corrosion.
B	Write general reaction and explain synthesis of biodiesel. What are its advantages?
C	4 g of coal was heated at 110 degree Celsius for an hour when it left behind the mass of 3.75 g. This when heated at 950 degree Celsius for 7 minutes gave mass of 3.35 g. This upon further heating at 750 degree Celsius in air for an hour left behind residue of constant mass of 0.150g. Calculate the results of proximate analysis.
D	What are the characteristics of ideal fuel?
E	What is absorption spectroscopy? Explain different types of absorption spectroscopy explaining nature of interactions with molecules.

Files submitted:

3. Have you uploaded the required correct files *

Mark only one oval.

Yes

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