S.B. Roll. No……

APPLIED CHEMISTRY-II
2nd Exam/Common/4553/Jun'2022
(For 2018 Batch Onwards)

Duration: 3Hrs. **M.Marks:75**

SECTION-A

Q1. a) Fill in the blanks. **15x1=15**

i. Iron ore haematite is concentrated by _____Process.
ii. Coating of iron with zinc by hot dipping is called_____
iii. Degradation of metal surface by mechanical action is known as_____
iv. The knocking characteristics of a diesel fuel are expressed in terms of _____Number.
v. Producer gas is a mixture of_____
vi. Viscosity of oil generally _____with increase in temperature.
vii. Suspension of graphite in oil is known as_____
viii. A good refractory material should have _____porosity.
ix. The component which accelerates the rate of drying is known as_____
x. Monomer of polythene is_____

b) State True or False.

xi. Roasting is carried out for Sulphide ores in order to convert them into metal oxides.
xii. A good fuel has high calorific value.
xiii. Coolants and lubricants increase the tool life.
xiv. Wool is a natural polymer.
xv. A good refractory material must undergo spalling.

SECTION-B

Q2. Attempt any ten questions. **10x3=30**

a. Write a note on calcination.
b. Explain froth flotation process for the concentration of sulphide ores.
c. Define Pilling-Bedworth rule.
d. Discuss any three factors which affect the rate of corrosion.
e. Differentiate between corrosion and erosion.
f. Define calorific value of a fuel. Differentiate between gross calorific value and net calorific value.
g. Give the importance of proximate analysis of coal.
h. Write a note on compressed natural gas (CNG).
i. Explain condensation polymerization.
j. Differentiate between thermoplastics and thermosetting plastics.
k. Give any three industrial applications of polymers.
l. Explain the terms flash point and fire point of a lubricating oil.
m. Give three functions of a lubricant.
n. Define ceramics. Give any two engineering applications of ceramics.
o. What are composite materials?

SECTION-C

Q3. Attempt any three questions. **3x10=30**

i. Give a detailed account of the following processes, used for the purification of metals: Poling, Cupellation, Electro-refining and Van Arkel method.
ii. Explain electrochemical theory of corrosion.
iii. What are the characteristics of a good fuel? How gaseous fuels are better than liquid fuels?
iv. What are refractories? Give the characteristics of a good refractory. Differentiate between acid and basic refractories with suitable examples.
v. Define Glass? What is the composition of ordinary glass and pyrex glass? Give any two applications of glass.
vi. Define cutting fluids. What are the functions of cutting fluids? Differentiate between cutting fluids and lubricants