**KLS Gogte Institute of Technology (Autonomous)**

**Department of Chemistry**

**Subject: Applied Chemistry Code:16CHE22**

**Internal Assessment Test –Special (2)**

**Semester: II Date: 17/04/2018**

**Academic Year: 2017-18 Max. Marks: 25 Duration: 1.15 Hr**

**Note: Each question carries 5 marks**

1. What is throwing power of a plating bath? Calculate the throwing power of a plating bath in a Haring-Blum cell if the distances of the two cathodes from the anode are 5 cm and 6 cm and the quantities of the metal deposited are 72 mg and 70 mg respectively. [L3 CO2, PO 1]
2. Explain the electroless plating process involved in the manufacture of PCB with bath composition and reactions. [L2 CO2, PO 1]
3. A coal sample with 5% H was subjected to combustion in a Bomb Calorimeter. Calculate the GCV and NCV of the coal sample from the following data.

Weight of fuel = 0.80 g

Weight of water in the calorimeter =1000 g

Water equivalent of calorimeter = 500g

Specific heat of water = 4.187 kJ kg-1K-1

Rise in temperature = 2.5 K

Latent heat of steam = 587 x 4.187 kJ kg-1 [L3 CO3, PO 1]

1. Explain the fluidized bed catalytic cracking process with a neat labeled diagram. [L2 CO2, PO 1]
2. Suggest and explain an instrumental technique to analyze the sodium and potassium ions with a neat diagram. [L3 CO3 PO1,3,12]

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**QUIZ – Special (2)**

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1. Molecular weight of polyethene is 28000 and its degree of polymerization is\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

A) 10 B) 200 C) 1000 D) 2000

2. Cracking is a process carried out to improve the yield of,

A) Diesel B) kerosene C) Petrol D) Biodiesel

3. Electroless plating can be used to plate

A) Conductors. B) Insulators C) Semiconductors D) All of these.

4. In electroless plating of copper, EDTA is used as,

A) Complexing agent B) Reducing agent. C) Buffer D) Electrolyte.

5. Which of the following is essential in electro plating?

A) Oxidizing agent. B) Reducing agent C) Electricity D) All of these.

6. The anode used in electroplating of chromium is,

A) Chromium B) Teflon C) Pb – Sn D) All of these

7. The tendency of knocking in petrol engines is lowest in

A) Aromatics B) Olefins C) Cycloparaffins D) Straight chain hydrocarbons

8. Addition of ethanol to petrol increases,

A) Octane number B) Calorific value C) Cetane number D) None of these.

9. Synthesis of Biodiesel involves

A) Trans esterification B) Hydrolysis C) Redox reaction D) Condensation

10. The process of improving octane number of petrol by bringing about structural modification in the hydrocarbon is called

A) Cracking B) Refining C) Reforming D) Sparking

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