E08

Room - A110

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K.S. SCHOOL OF ENGINEERING & MANAGEMENT

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BLUE BOOK

Name of the Student: Anika kavya Tippinii

Class / Sem : 1st 'E' **Branch:** ECE

USN : 1 K G 2 1 E C 0 1 0

SUBJECT : Engineering chemistry **Subject Code :** 21CHE12

MAXIMUM MARKS : IA + Ass + Activity (60 + 20 + 20)

Test	I	II	III	Average Marks Obtained
Date	1-2-22	28-2-22	30-3-22	$\frac{60+20+20}{100} = \frac{100}{100}$ Anika
Marks Obtained	20	20	20	
Signature of the Student	Anika	Anika	Anika	$= \frac{50}{50}$
Initials of Room Supervisor			30/3/22	
Initials of Faculty				Anika.

NAME OF FACULTY : Anitha R.

SIGNATURE :

SIGNATURE OF H.O.D.

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First Internal test

Q. No	Marks	CO	Q. No	Marks	CO	CO	Total
1(a)	5	CO1	3(a)	5	CO1	CO1	15
1(b)	5	CO1	3(b)	5	CO2		
1(c)			3(c)			CO2	5
OR			OR				
2(a)	5	CO1	4(a)				
2(b)	5	CO1	4(b)				
2(c)			4(c)			Grand Total	20

Second Internal test

Q. No	Marks	CO	Q. No	Marks	CO	CO	Total
1(a)	5	CO2	3(a)	5	CO3	CO2	10
1(b)	5	CO2	3(b)	5	CO3		
1(c)			3(c)			CO3	10
OR			OR				
2(a)	5	CO2	4(a)				
2(b)	5	CO2	4(b)				
2(c)			4(c)			Grand Total	20

Third Internal test

Q. No	Marks	CO	Q. No	Marks	CO	CO	Total
1(a)	5	CO4	3(a)	5	CO5	CO4	10
1(b)	5	CO4	3(b)	5	CO5		
1(c)			3(c)			CO5	10
OR			OR				
2(a)			4(a)	5	CO5		
2(b)			4(b)	5	CO5		
2(c)			4(c)			Grand Total	20

Signature of the Staff

1] a) Nernst equation gives the relation between single electrode potential and standared electrode potential through concentration of metal ion in a particule temperature

decrease in change in gibb's free energy is the maximum amount of work done by cell

$-\Delta G = W_{max}$

Work done by the cell is the product of number of Coloumbs and energy available per coulomb

W_{max} = no. of C x $\frac{\text{Energy available}}{\text{coulomb}}$

no. of C = no. of moles of e^- x F

no. of C = nF

$\frac{\text{Energy available}}{\text{Coulomb}}$ = E

$W_{max} = nFE$

High potential is obtained when maximum amount of work is done by cell.

$-\Delta G = nFE$

$\Delta G = -nFE$

Under standard conditions

$\Delta G^\circ = -nFE^\circ$

Consider a reaction, $M \rightleftharpoons M^{n+} + ne^-$

K_c - equilibrium constant

$K_c = \frac{[M]}{[M^{n+}]}$

$\Delta G = \Delta G^\circ + RT \ln[K_c]$

$-nFE = -nFE^\circ + RT \ln \frac{[M]}{[M^{n+}]}$

$$-nFE = -nFE^\circ + RT \ln[M] - RT \ln[M^{n+}]$$

÷ by $-nF$

$$E = E^\circ - \frac{RT \ln[M]}{nF} + \frac{RT \ln[M^{n+}]}{nF}$$

$[M] = 1$, $\ln[M] = 0$

$$E = E^\circ + \frac{RT \ln[M^{n+}]}{nF}$$

under standard conditions

$$E = E^\circ + \frac{0.0591}{n} \log[M^{n+}]$$

cathode - Nickel -0.76

anode - Zn -0.25

Cell reaction

ode- $Zn \longrightarrow Zn^{2+} + 2e^-$

de- $Ni^{2+} + 2e^- \longrightarrow Ni$

l $Zn + Ni^{2+} \longrightarrow Zn^{2+} + Ni$

Cell representation

$$Zn \mid Zn^{2+}(0.5) \,//\, Ni^{2+}(0.05) \mid Ni$$

$$E^\circ_{cell} = E^\circ_C - E^\circ_A = E^\circ_{Ni^{2+}/Ni} - E^\circ_{Zn^{2+}/Zn}$$

$$= -0.25 + 0.76 = 0.51$$ ✓

$$E_{cell} = E^\circ_{cell} + \frac{0.0591}{n} \log \frac{[Ni^{2+}]}{[Zn^{2+}]}$$

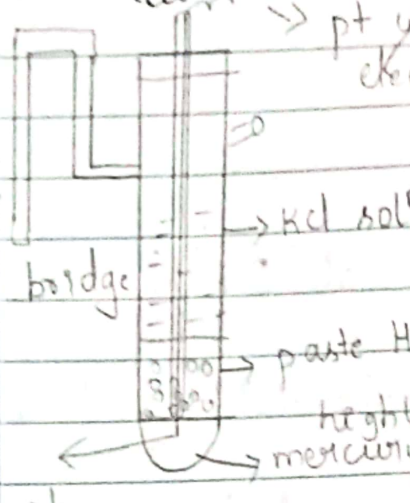
$$= 0.51 + \frac{0.0591}{2} \log \frac{[0.05]}{[0.5]}$$

$= 0.51 + 0.02956 \log(0.1)$

$= 0.51 - 0.02955$

$E_{cell} = 0.48045\ V$

3] a) Calomel electrode is a reference electrode



→ diagram of calomel electrode

The calomel electrode consists of a glass tube. Mercury is placed at bottom of tube. A past of Hg & Hg_2Cl_2 is placed above mercury, remaining tube is filled a known KCl solution. A platinum wire is inserted into the mercury for electrical contact.

Cell representation - Hg/Hg_2Cl_2 , KCl solution

at anode - $2Hg \longrightarrow Hg_2^{2+} + 2e^-$

$Hg_2^{2+} + 2Cl^- \longrightarrow Hg_2Cl_2$

overall - $2Hg + 2Cl^- \longrightarrow Hg_2Cl_2 + 2e^-$

at cathode - $Hg_2Cl_2 \longrightarrow Hg_2^{2+} + 2Cl^-$

$Hg_2^{2+} + 2e^- \longrightarrow 2Hg$

Overall - $Hg_2Cl_2 + 2e^- \longrightarrow 2Hg + 2Cl^-$

Net cell reaction

$Hg_2Cl_2 + 2e^- \longrightarrow 2Hg + 2Cl^-$

Concentration of KCl - saturated
potential of calomel electrode - 0.242V

$E_{cell} = E^\circ_{cell} - 0.0591 \log(Cl^-)$ at 298K

Electrochemical theory can be explained by taking iron as an example
when a iron metal is exposed to surrounding environment according to electrochemical theory corrosion takes place due to formation of anodic and cathodic regions in same metal or when two metal are in contact through corrosive environment

Air → Air

moisture

anodic region → cathodic region

e^-

$Fe \rightarrow Fe^{2+} + 2e^-$ $2H_2O + O_2 + 4e^- \rightarrow 4OH^-$

→ Iron metal

The anodes and cathodes are formed due to heterogenity at interface of metal and environment. The heterogenity on metal surface is developed when

contact with 2 different metals
if metal surface subjected to stress
on metal surface concentration of O_2 differs

Thus cathode and anode are formed in corrosive environment like moisture etc.

At anode oxidation takes place, Fe^{2+} ions get dissolved and gets corroded while the cathode region remains unaffected.

At anode

$$Fe \longrightarrow Fe^{2+} + 2e^-$$

at cathode.
liberation of H_2

a) in acidic medium (in absence of O_2)

$$2H + 2e^- \longrightarrow H_2\uparrow$$

b) in neutral / alkaline medium (in absence of O_2)

$$2H_2O + 2e^- \longrightarrow 2OH^- + H_2\uparrow$$

Absorption of O_2

a) in acidic medium (in presence of O_2)

$$4H + 4e^- + O_2 \longrightarrow 2H_2O$$

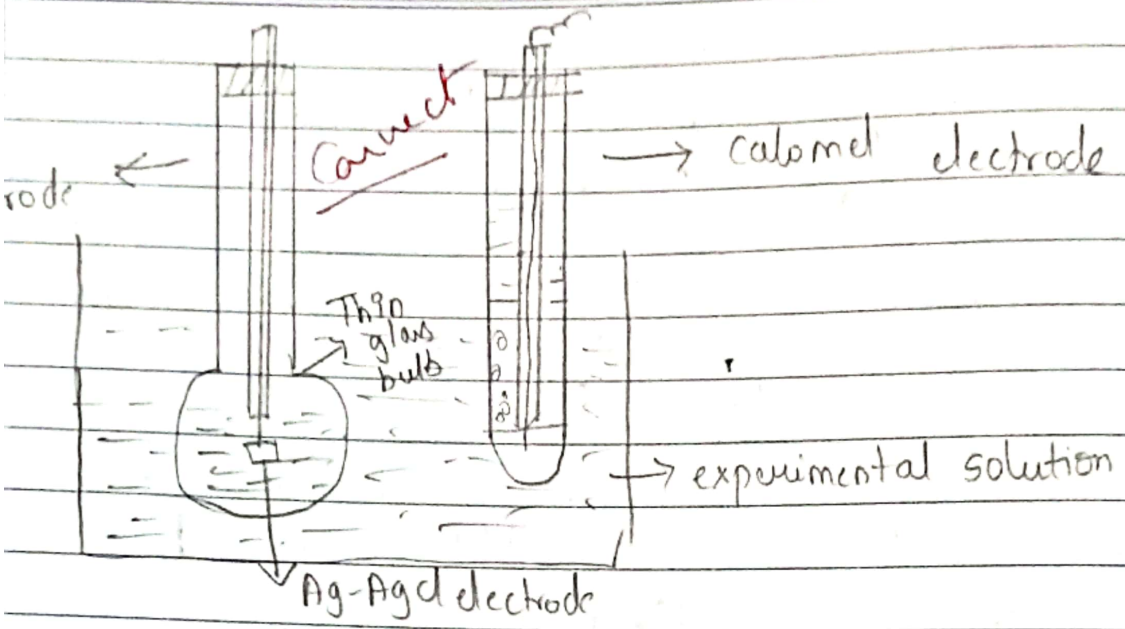
b) in neutral / alkaline medium (in presence of O_2)

$$2H_2O + 4e^- + O_2 \longrightarrow 4OH^-$$

$$Fe^{2+} + 2OH^- \longrightarrow Fe(OH)_2$$

$$4Fe(OH)_2 + 2H_2O + O_2 \longrightarrow 2(Fe_2O_3 \cdot 3H_2O)$$

ferric oxide / yellow rust



When a thin glass membrane is place b/w 2 metals of different pH values, potential difference is formed across membrane. as pH varies, potential difference also varies. A pH of soln is kept constant and electrode potential is determined by pH of other soln i.e experimental solution.

$E_{cell} = E_C - E_A$

$= E_{glass} - E_{SCE}$

$E_{glass} = E_1 - E_2$

$= E^\circ + 0.0591 \log(C_1) - E^\circ + 0.0591 \log(C_2)$

$E_{glass} = -0.0591 \log(C_2) + 0.0591 \log(C_1)$

C_2 conⁿ is known, so it is constant

$E_{glass} =$ constant $+ 0.0591 \log(H^+)$

$\log(H^+) = -pH$

$E_{glass} =$ constant $- 0.0591\, pH$

E_{cell} = Constant − 0.0591 pH − E_{SCE}

$$pH = \frac{\text{Constant} - E_{cell} - E_{SCE}}{0.0591}$$

anode − fe
Cathode − Ag

$E^\circ_{cell} = E^\circ_C - E^\circ_A$
$= 0.8 + 0.44$
$= 1.24$

Cell reaction
anode − $fe \longrightarrow fe^{2+} + 2e^-$
Cathode − $(Ag^+ + e^- \rightarrow Ag)2$
$2Ag^+ + 2e^- \longrightarrow 2Ag$

Overall $fe + 2Ag^+ \longrightarrow fe^{2+} + 2Ag$

Cell representation − $fe / fe^{2+}(0.1)M // Ag^+(0.05)M / Ag$

$$E_{cell} = E^\circ_{cell} + \frac{0.0591}{n} \log \frac{[Ag^+]^2}{fe^{2+}}$$

$$= 1.24 + 0.02955 \log \frac{[0.05]^2}{0.1}$$

$= 1.24 + 0.02955 (-1.602059)$
$= 1.24 - 0.04734$
$E_{cell} = 1.1926\ V$

Hg | Hg_2Cl_2 | Cl^- || unknown pH | glass | 0.1 M HCl | AgCl | Ag
cell representation

20/20
v. good. keep it up.

$A = 100\ inch^2$

$K = 534$

$W = 485g = 485 \times 1000\ mg$

$\rho = 7.9\ g/cm^3$

$t = 1\ year = 1 \times 365 \times 24\ hrs$

$$CPR = \frac{KW}{\rho A t}$$

$$= \frac{534 \times 485 \times 1000\ mg}{7.9\ g/cm^3 \times 100\ inch^2 \times 1 \times 365 \times 24\ hrs}$$

$$= \frac{258990000}{6920400}$$

$$= 37.42\ mpy$$

Electroplating is the process of deposition of a layer of metal on surface of object (metal, alloy, conductor) electrolytically.

The surface should be cleansed thoroughly. Organic matters are removed by aqueous alkali cleaning and solvent cleaning. Inorganic matters are removed by mechanical cleaning and pickling. The surface is washed with deionized water. Then under following conditions electroplating of chromium takes place.

		decorative chromium plating	hard chromium plating
1	plating bath composition	100:1 chromic acid with dil H_2SO_4	100:1 chromic acid with dil H_2SO_4
2	Operating temperature	45 to 55°C	43 to 66°C
3	Current density	100 to 200mA/cm²	215 to 350 mA/cm²
4	Current efficiency	8 to 12%	10 to 15%
5	Anode material	insoluble anode, Pbsn alloy coated with PbO_2	insoluble anode, Pb Sn alloy coated with PbO_2
6	Cathode material	objected to be plated	object to be plated
7	Anode reaction	$H_2O \rightarrow \frac{1}{2}O_2 + 2H^+ + 2e^-$ $Cr^{3+} \rightarrow Cr^{6+} + 6e^-$	$H_2O \rightarrow \frac{1}{2}O_2 + 2H^+ + 2e^-$ $Cr^{3+} \rightarrow Cr^{6+} + 6e^-$
8	Cathode reaction	$Cr^{3+} + 3e^- \rightarrow Cr$	$Cr^{3+} + 3e^- \rightarrow Cr$
9	Applications	i) used in decorations ii) applications of corrosion control	i) used in industrial & engineering applications

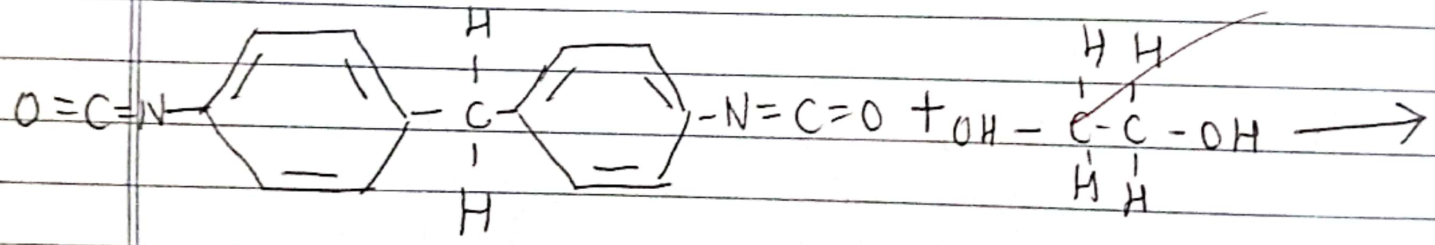
for good deposition, the concentration of Cr^{3+} should be very low so anode oxidises Cr^{3+} to Cr^{6+} reducing concentration of Cr^{3+}

→ Chromium when used as anode, because of high concentration, black layered deposit is formed

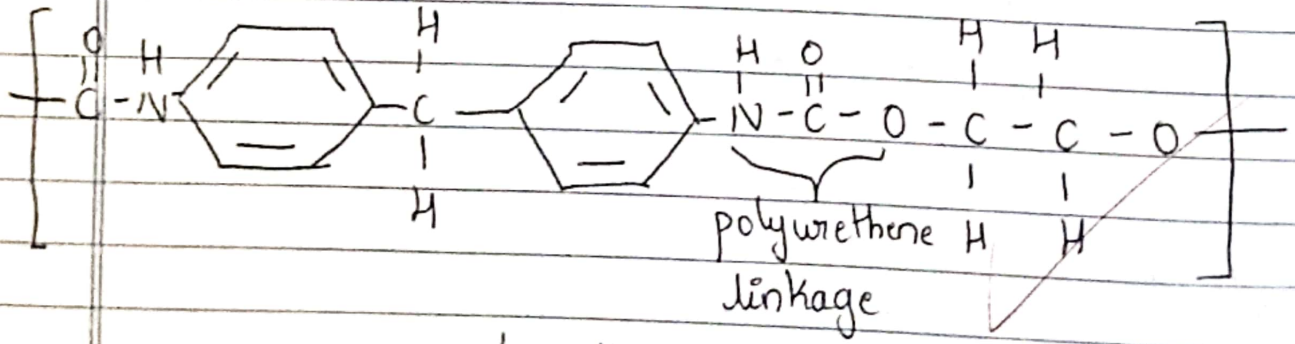
→ in acidic medium, chromium undergoes passivation.

3(a) Polyurethane are characterized by urethene linkage. It is formed by polyaddition of methylene diphenyl diisocynate and glycol (diol).

Synthesis



methylene diphenyl diisocyanate glycol (diol)



polyurethane

Properties -

1. Polyurethane can be used as fibre, foam, coating etc. Due to presence of extra oxygen in polyurethane linkage, it provides extra flexibility to polymeric chain, due to this it will have low melting point than polyamides.
2. polyurethane has good load capacity in both stress and compression. It changes its shape during stress and retains original shape when load is removed.
3. It has good electrical insulating properties

Applications

1. flexible foams used in cushions in furniture and automotives.
2. used in less weight garments and swim suites because of its stretching property.

b) Sol- gel process is easy and inexpensive process

1) preparation of precursor solution- metal alkoxide is dissolved in alcohol solution, addition of water takes place. Water hydrolizes by replacing alkoxide group by hydroxo ligand.

$$MOR + H_2O \longrightarrow MOH + ROH$$

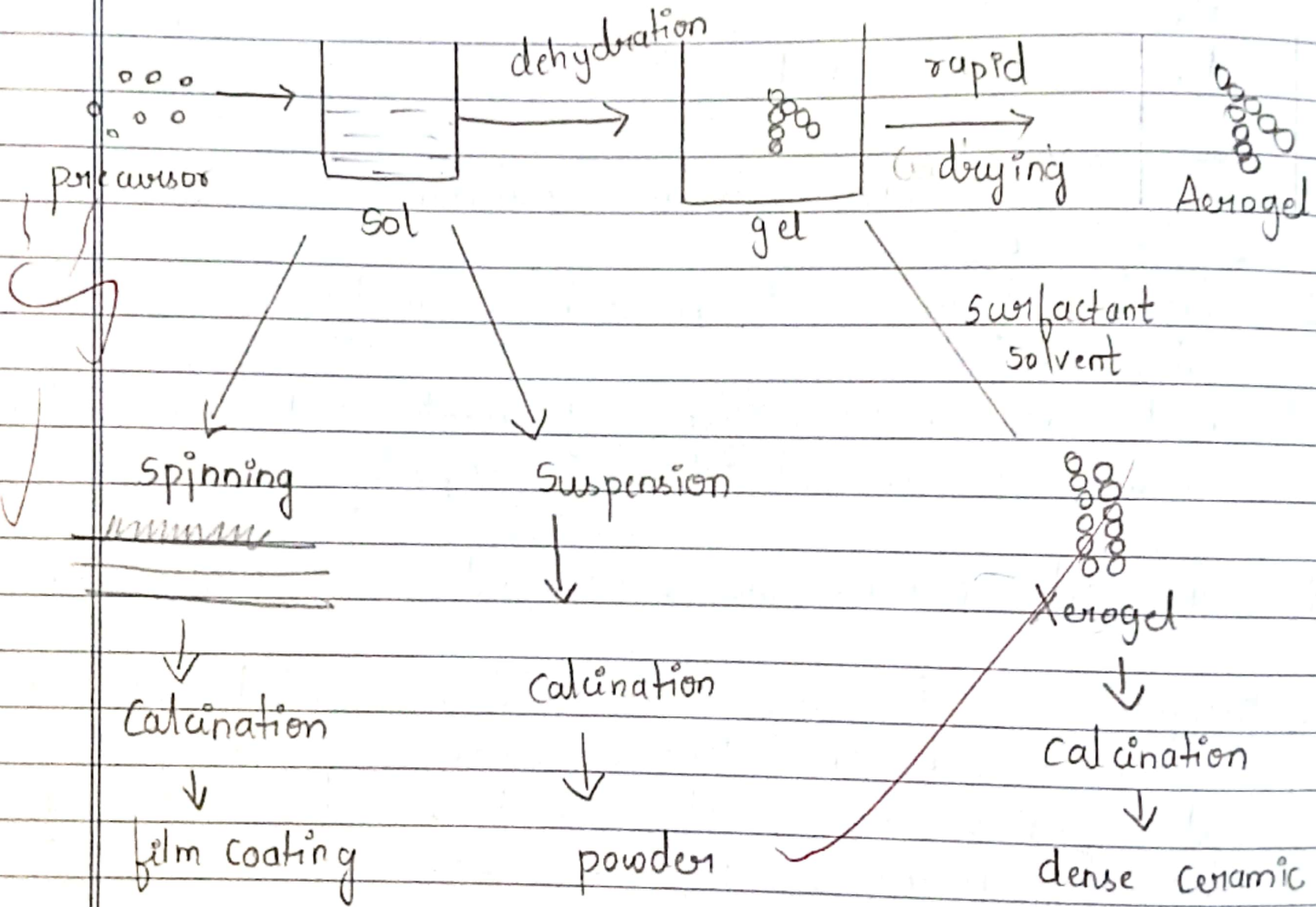
2) formation of gel layer - poly condensation of MOH takes place to form oxobridges and hydroxobridges.

$$MOH + MOH \longrightarrow M-O-M$$

$$MOH + MOR \longrightarrow M-OH-M$$

3) aging of gel- The above reaction is left for transformation of gel into solid mass

4) drying of gel - Thermal evaporation takes place to remove liquid & other volatile liquids, thus nanomaterial obtained is xerogel.



2] a) $A = 400\ inch^2 \rightarrow 400 \times 6.45\ cm^2$ $\quad 1 inch^2 = 6.45 cm^2$

$t = 2\ yrs \rightarrow 2 \times 365 \times 24\ hrs$

$W = 375\ g \rightarrow 375 \times 1000\ mg$

$\rho = 8.73\ g/cm^3$

$K = 87.6$

$$CPR = \frac{KW}{\rho A t}$$

$$= \frac{87.6 \times 375 \times 1000\ mg}{8.73\ g/cm^3 \times 400 \times 6.45 cm^2 \times 2 \times 365 \times 24\ hrs}$$

$$= \frac{32850000}{394609968}$$

$$= 0.08324\ mmpy$$

b) It is a controlled autocatalytic deposition of a continuos film of metal of its own salt solution in presence of suitable reducing agent without electrical energy.

The surface should be cleaned properly. Organic matters removed by alkali cleaning. Inorganic matters removed by mechanical cleaning or pickling. before electroless plating, the insulators like plastics & PCB's are activated by dissolving $SnCl_2$ & $PbCl_2$. Under following conditions electro less plating takes place

plating bath composition - $CuSO_4$

reducing agent - HCOOH

complexing agent and exalant - EDTA

Buffer - NaOH and Rochhelle salt (pH = 11)
Operating temperature - 25°C

Anode → $2HCOOH + 4OH^- \longrightarrow 2HCOO^- + 2H^+ + H_2O + 2e^-$
cathode → $Cu^{2+} + 2e^- \longrightarrow Cu$
Total -

Applications
1) used in field emission of x-rays
2) used in cancer theraphy to kill cancer cells in body.

End

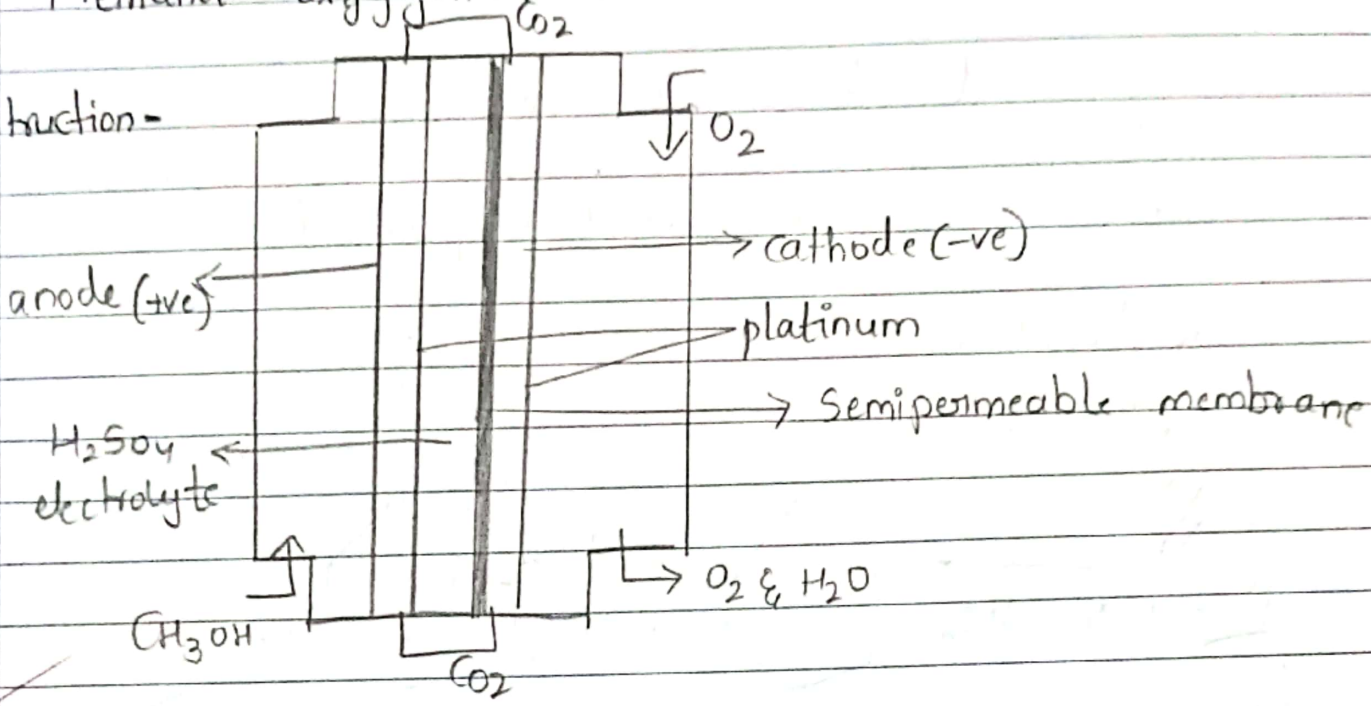
20/20

2/3/22

very good
Keep it up

1] a) Methanol oxygen fuel cell

Construction -



- It consists of both anode and cathode made of platinum electrodes
- oxygen is passed into cathode compartment
- Methanol is passed into anode compartment
- Electrolyte used is sulphuric acid.
- Semipermeable membrane is used to prevent diffusion of methanol into cathode

Working - at anode CH_3OH oxidises to CO_2 & liberates electrons. The O_2 takes the liberated electrons and gets reduced to water and liberation of energy takes place at cathode

At anode - $CH_3OH + H_2O \longrightarrow CO_2 + 6H^+ + 6e^-$

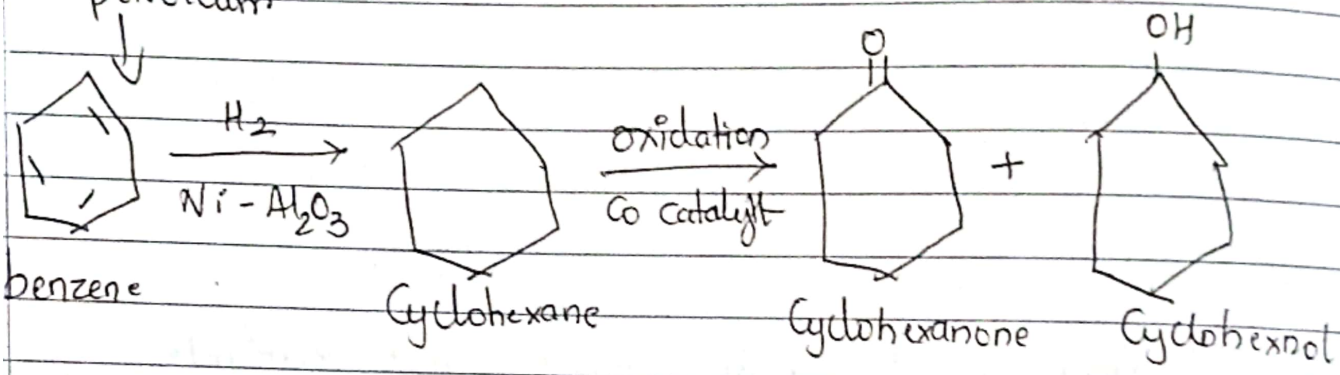
at cathode - $\frac{3}{2}O_2 + 6H^+ + 6e^- \longrightarrow 3H_2O$

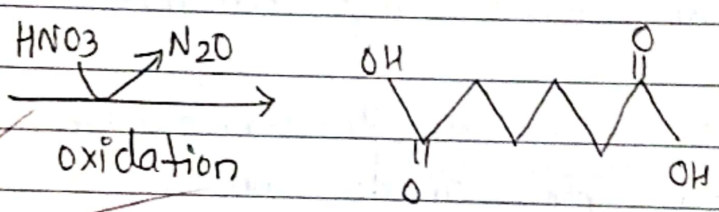
Overall - $CH_3OH + 3/2 O_2 \longrightarrow CO_2 + 2H_2O$.

The cell potential is 1.21 V at 25°C.

Adipic acid - it is a important material used in synthesis of nylon, resin, cosmetics, lubricants, pharmaceutical & pesticide industries

Conventional route.

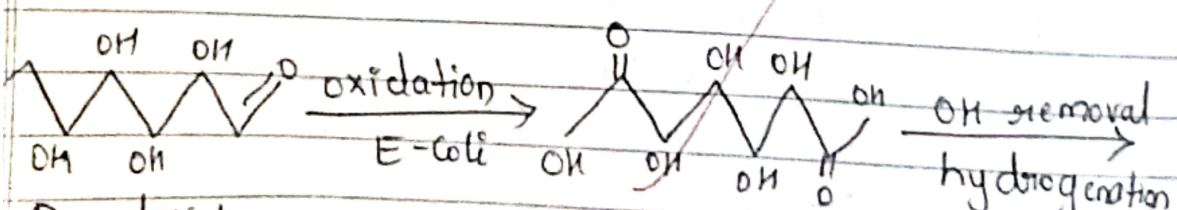


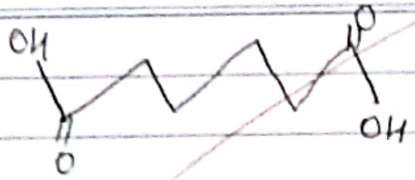


Adipic acid

benzene is hydrogenated using $Ni-Al_2O_3$ and cyclohexane is formed which reacts with Co catalyst to form a mixture of cyclohexanone & Cyclohexanol which is reduced to adipic acid by nitric acid using a suitable catalyst.

Green route





adipic acid

D- glucose is oxidised by using e-coli into glucaric acid further, it is converted into adipic acid by hydrogenation process.

3] a) Potentiometry-

Determination of concentration of ions by measuring the emf is called potentiometry

The emf is measured using Nernst equation

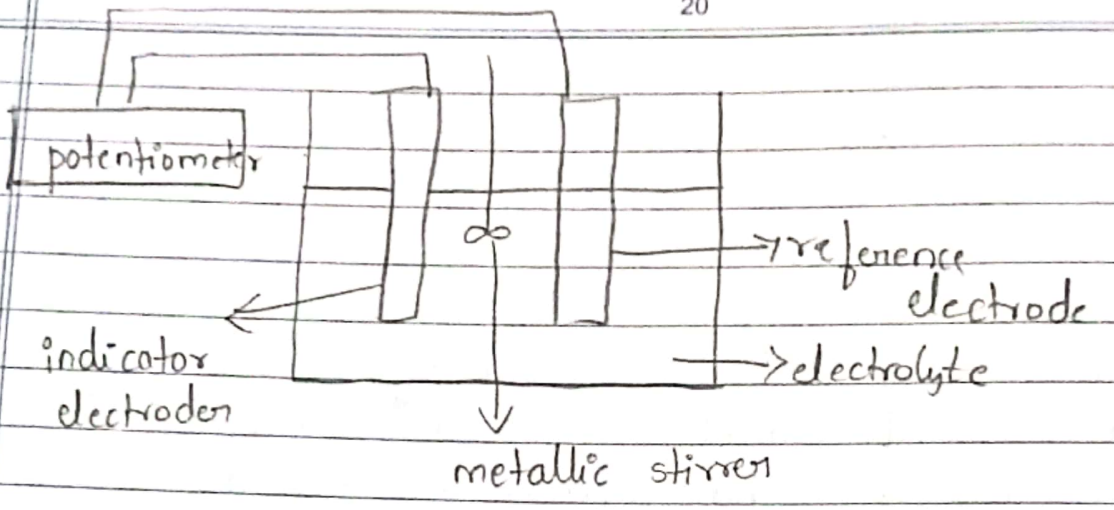
$$E = E^{\circ} + \frac{0.0591}{n} \log[M^{n+}]$$

Titration in which end point is detected by change in potential of suitable electrode during titration.

The electrodes which respond to change in concentration of ions in solution is called indicator electrode.

The indicator electrode combines with reference electrode and forms a cell & emf of so formed cell is calculated. As emf of cell gradually changes when reaching end point, increases rapidly at end point and gradually changes after the end point. It is indicated by plotting a graph of emf against volume of titrant

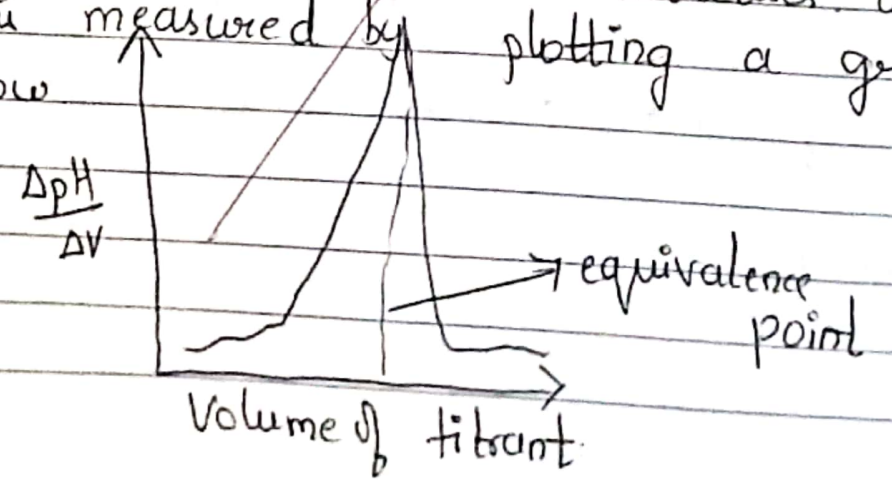
Instrumentation-



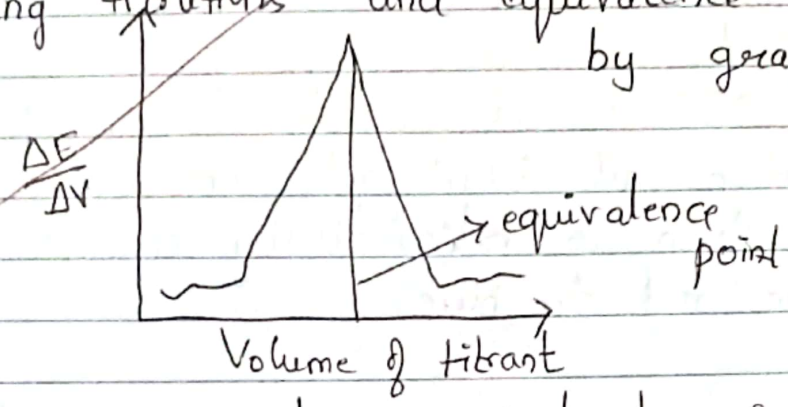
It consists of 2 electrodes indicator electrode (eg-pt) and reference electrode-
potentiometer- measures the potential.
metallic stirrer- used to maintain uniform concentration after each addition.

Applications-

1 Acid base titrations- In this the indicator electrode must be a pH sensitive electrode so it can respond to change in pH during titration.
Indicator electrode- glass electrode
reference electrode- calomel electrode.
As pH increases emf also increases and equivalence point is measured by plotting a graph as shown below



2. Redox titrations - Indicator electrode - platinum & reference electrode calomel. Both are dipped in an electrolyte of oxidised and reduced form of species. During redox titrations, rate of concentrations increases as potential difference also increases during titrations and equivalence point is shown by graph as below.



- they are used as indicators in coloured solutions.

b) $$COD = \frac{(\text{blank titre value} - \text{back titre value}) \times N_{FAS} \times 8000}{V_{waster\ water}}$$

$V = 25 cm^3$
$N_{FAS} = 0.05\ N$
blank - $30.5\ cm^3$
back - $15.5\ cm^3$

$$= \frac{30.5 - 15.5 \times 0.05 \times 8000}{25}$$

$$= \frac{15 \times 0.05 \times 8000}{25}$$

$COD = 240\ mg/dm^3$ of O_2

4(a) Hardness of ~~EDTA~~ water can be determined by titrating agaist EDTA quantitatively

EDTA is a complexing agent. It forms water stable, soluble 1:1 complex with metal ions. EDTA is used as a titrant. Eriochrome black T is the indicator used. which is indicated by change of colour from red to blue. EDTA forms complex with M^{2+} ions. During titration all EDTA gets complexed and indicator gets frees which is indicated by change in colour from wine red to blue.

Procedure-

Pipette out given 25 cm^3 waste water into conical flask. Add NH_3NH_4Cl buffer and 2-3 drops of eriochrome black T. Titrate against 0.01M EDTA till colour changes from wine red to blue. let volume consumed be V_1 ml. Take same 50 cm^3 of waster water into a beaker boil, cool add buffer, 2-3 drops of indicator and titrate against 0.01M EDTA till colour changes from red to blue. let volume consumed be V_2 ml

1000ml of 1M EDTA = 100g of $CaCO_3$.

V_1 ml of 0.01M EDTA = $\frac{V_1 \times 0.01 \times 100}{1000}$ g of $CaCO_3$

50ml of water sample contains = $\frac{V_1 \times 0.01 \times 100}{1000}$ g of $CaCO_3$

$\therefore 10^6$ ml of waster sample contains = $\frac{V_1 \times 0.01 \times 100 \times 10^6}{1000 \times 50}$ ppm of $CaCO_3$

Total hardness = $\frac{V_{1\,EDTA} \times M_{EDTA} \times 100 \times 10^6}{1000 \times V_{waste\ water}}$ ppm of $CaCO_3$

Permanent hardness = $\frac{V_{2\,EDTA} \times M_{EDTA} \times 100 \times 10^6}{1000 \times V_{waste\ water}}$ ppm of $CaCO_3$

Temporary hardness = (Total hardness − permanent hardness) ppm of $CaCO_3$

4 b) $COD = \frac{(\text{blank titre value} - \text{back titre value}) \times N_{FAS} \times 8000}{V_{waste\ sample}}$

$= \frac{(15-9) \times 0.25 \times 8000}{20}$

$COD = 600\ mg/dm^3$ of O_2

20/20

V. good + 14

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BLUE BOOK

Name of the Student: Nayan. M. h

Class / Sem : 4th Sem **Branch:** CSE

USN :

1	K	4	1	8	C	S	0	6	5

SUBJECT : Database managment S/m **Subject Code :** 18CS53

MAXIMUM MARKS : 40

Test	I	II	III	Average Marks Obtained
Date	6/10/20	18/1/20	3/02/21.	
Marks Obtained	30	30	17	26+10
Signature of the Student	Nayx	Naya	Nayanh.	36 Naya
Initials of Room Supervisor				
Initials of Faculty	SAK	SAK	SAK	SAK

NAME OF FACULTY : Sandhya. A. KulKarni

SIGNATURE :

SIGNATURE OF H.O.D.

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First Internal test

Q. No	Marks	CO	Q. No	Marks	CO	CO	Total
1(a)	5	CO1	3(a)	5	CO1	CO1	20
1(b)	5	CO1	3(b)	5	CO1		
1(c)	5	CO2	3(c)	5	CO2	CO2.	10
OR			OR				
2(a)			4(a)				
2(b)			4(b)				
2(c)			4(c)			Grand Total	30

Second Internal test

Q. No	Marks	CO	Q. No	Marks	CO	CO	Total
1(a)	5	CO2	3(a)	5	CO2	CO2	10
1(b)	5	CO3	3(b)	5	CO3		
1(c)	5	CO3	3(c)	5	CO3	CO3	20
OR			OR				
2(a)			4(a)				
2(b)			4(b)				
2(c)			4(c)			Grand Total	30

Third Internal test

Q. No	Marks	CO	Q. No	Marks	CO	CO	Total
1(a)			3(a)	0	CO4	CO4	12
1(b)			3(b)	5	CO4		
1(c)			3(c)	3	CO5	CO5	5
OR			OR				
2(a)	5	CO4	4(a)				
2(b)	2	CO4	4(b)				
2(c)	2	CO5	4(c)			Grand Total	17

Signature of the Staff

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KSSEM
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BLUE BOOK

Name of the Student: AKASH.K.MURTHY

Class / Sem : 7th Semester **Branch:** Civil

USN :

1	K	G	1	7	C	V	0	0	3

SUBJECT : Quantity Surveying and Contract Management **Subject Code :** 18CV71

MAXIMUM MARKS :

Test	I	II	III	Average Marks Obtained
Date	19/NOV/2021	20/DEC/2021	25/JAN/2021	$15/30 + \frac{10}{10} = \frac{25}{40}$
Marks Obtained	10/30	19/30	15/30	
Signature of the Student				
Initials of Room Supervisor				
Initials of Faculty				

NAME OF FACULTY : Sushma maam
Amrutha maam

SIGNATURE : Sushma.M

SIGNATURE OF H.O.D.

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First Internal test

Q. No	Marks	CO	Q. No	Marks	CO	CO	Total
1(a)	2	1	3(a)			1	2
1(b)	4	2	3(b)	4	2		
1(c)			3(c)			2	8
OR			OR				
2(a)			4(a)				
2(b)			4(b)				
2(c)			4(c)			**Grand Total**	10/30

Second Internal test

Q. No	Marks	CO	Q. No	Marks	CO	CO	Total
1(a)	5	2	3(a)	4	2	2	9
1(b)	5	3	3(b)	5	3		
1(c)			3(c)			3	10
OR			OR				
2(a)			4(a)				
2(b)			4(b)				
2(c)			4(c)			**Grand Total**	19/30

Third Internal test

Q. No	Marks	CO	Q. No	Marks	CO	CO	Total
1(a)	10	4	3(a)			4	10
1(b)	4	5	3(b)	1	5		
1(c)			3(c)			5	5
OR			OR				
2(a)			4(a)				
2(b)			4(b)				
2(c)			4(c)			**Grand Total**	15/30

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BLUE BOOK

Name of the Student: A. Yuvasree

Class / Sem : 3rd **Branch:** Ec

USN :

1	K	G	2	0	E	C	0	0	2

SUBJECT : Digital System Design. **Subject Code :** 18EC34

MAXIMUM MARKS :

Test	I	II	III	Average Marks Obtained
Date	3/12/21	13/12/21	15/3/21	$\frac{17}{30} + \frac{10}{10}$
Marks Obtained	09/16	23	12	
Signature of the Student	A. Yuvasree	A. Yuvasree	A. Yuvasree	Yuvasree $\frac{27}{40}$
Initials of Room Supervisor				
Initials of Faculty				

NAME OF FACULTY : Sanjay Nayak

SIGNATURE :

SIGNATURE OF H.O.D.

K S SCHOOL OF ENGINEERING AND MANAGEMENT

First Internal test

Q. No	Marks	CO	Q. No	Marks	CO	CO	Total
1(a)	02	1	3(a)			CO1	07
1(b)	05	1	3(b)			CO2	02
1(c)	05	2	3(c)				
OR			OR				
2(a)	02	1	4(a)	02	1		
2(b)			4(b)	02	1		
2(c)			4(c)	02	2	**Grand Total**	09

Second Internal test

Q. No	Marks	CO	Q. No	Marks	CO	CO	Total
1(a)	3	CO2	3(a)			CO2	7
1(b)	5	CO3	3(b)			CO3	16
1(c)	4	CO3	3(c)				
OR			OR				
2(a)			4(a)	4	CO2		
2(b)			4(b)	3	CO3		
2(c)			4(c)	4	CO3	**Grand Total**	23

Third Internal test

Q. No	Marks	CO	Q. No	Marks	CO	CO	Total
1(a)			3(a)	2			
1(b)			3(b)	3			
1(c)			3(c)				
OR			OR				
2(a)	3		4(a)				
2(b)	4		4(b)				
2(c)			4(c)			**Grand Total**	12

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BLUE BOOK

Name of the Student: R.J. Yaswanth

Class / Sem : 7th, B.Sec **Branch:** ECE

USN :

1	K	G	1	9	E	C	0	7	9

SUBJECT : Verilog HDL **Subject Code :** 18EC56

MAXIMUM MARKS :

Test	I	II	III	Average Marks Obtained
Date	05/02/2022	29/12/2021	27/12/2022	11 + 10
Marks Obtained	Ab (14)	16.	01	= (21)
Signature of the Student	R.J. Yaswanth	R.J. Yaswanth	R.J. Yaswanth	R.J. Yaswanth.
Initials of Room Supervisor				
Initials of Faculty				

Verified

NAME OF FACULTY : HARSHITHA. P. D.

SIGNATURE :

SIGNATURE OF H.O.D.

Question Nos.		Test - 1	Test - 2	Test - 3	Test - 4
Question 1	(a)	04 CO. 2	03½	01	
	(b)	03½ CO 3	02	0	
	(c)	– CO. 3	00.	–	
Question 2	(a)				
	(b)				
	(c)				
Question 3	(a)			–	
	(b)			0	
	(c)			–	
Question 4	(a)	03½ CO2	04		
	(b)	02½ CO3	04		
	(c)	– CO3	02½		
Question 5	(a)				
	(b)	CO1 – 13½	CO2 – 07½	CO4 – 01	
	(c)	CO2 – 0	CO3 – 08½	CO5 – 00	
Question 6	(a)				
	(b)	13½/30	16/30	01/30	
	(c)				
Question 7	(a)		08/04/2022	30/04/2022	
	(b)				
	(c)				
Question 8	(a)				
	(b)				
	(c)				

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BLUE BOOK

Name of the Student: Rakshitha. M R

Class / Sem : 7th 'B' **Branch:** ECE

USN :

1	K	G	1	8	E	C	0	4	4

SUBJECT : VLSI design **Subject Code :** 18EC72

MAXIMUM MARKS :

Verified Sig

Test	I	II	III	Average Marks Obtained
Date	18/11/21	27/12/21	24/01/22	15 + 10 = (25)
Marks Obtained	16	17	12	
Signature of the Student	Rakshitha	Rakshitha	Rakshitha	RakshithaMR
Initials of Room Supervisor	Rak.			
Initials of Faculty	HPD	Harshitha PD	Harshitha PD	Harshitha PD

NAME OF FACULTY : Harshitha PD

SIGNATURE : Harshitha PD

SIGNATURE OF H.O.D.

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BLUE BOOK

Name of the Student: PRAJWAL . V

Class / Sem : 5th SEM 'A' **Branch:** EEE

USN :

1	K	G	1	9	E	E	0	0	4

SUBJECT : High voltage engineering **Subject Code :** 18EE56

MAXIMUM MARKS : 30+10=40

Test	I	II	III	Average Marks Obtained
Date	19/11/21	28/12/21	25/1/22	29+10
Marks Obtained	30	29	26	=39
Signature of the Student	Prajwal.V	Prajwal V	Prajwal.V	Prajwal.V
Initials of Room Supervisor	19/11/21	28/12/21	25/1	
Initials of Faculty				

NAME OF FACULTY : Tejaswini G.V.

SIGNATURE :

SIGNATURE OF H.O.D.

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First Internal test

Q. No	Marks	CO	Q. No	Marks	CO	CO	Total
1(a)	5	CO1	3(a)				
1(b)	5	CO1	3(b)			CO1	19 1/2
1(c)	5	CO2	3(c)				
OR			OR			CO2	10
2(a)	NA	CO1	4(a)	5	CO1		
2(b)	5	CO1	4(b)	4 1/2	CO1		
2(c)	NA	CO2	4(c)	5	CO2	Grand Total	29 1/2 => 30/30

Praj wal. V

Second Internal test

Q. No	Marks	CO	Q. No	Marks	CO	CO	Total
1(a)	5	CO2	3(a)				
1(b)	5	CO3	3(b)			CO2	9
1(c)	5	CO3	3(c)				
OR			OR			CO3	19 1/2
2(a)			4(a)	4	CO2		
2(b)			4(b)	4 1/2	CO3		
2(c)			4(c)	5	CO3	Grand Total	28 1/2 => 29/30

Praj wal. V

Third Internal test

Q. No	Marks	CO	Q. No	Marks	CO	CO	Total
1(a)			3(a)	1	CO4		
1(b)			3(b)	5	CO4	CO4	16
1(c)			3(c)	5	CO5		
OR			OR			CO5	10
2(a)	5	CO4	4(a)				
2(b)	5	CO4	4(b)				
2(c)	5	CO5	4(c)			Grand Total	26/30

Praj wal. V

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BLUE BOOK

Name of the Student: Nishchitha K.R

Class / Sem : III sem Branch: MBA

USN : 1 K 4 2 0 B A 0 2 7

SUBJECT : Emerging Exponential Technologies Subject Code : 20MBA301

MAXIMUM MARKS :

Test	I	II	III	Average Marks Obtained
Date	20/12/21	24/1/22	19/2/22	22+15=37
Marks Obtained	44/50	43/50	44/50	
Signature of the Student	Nishchitha K	Nishchitha K	Nishchitha K	
Initials of Room Supervisor				
Initials of Faculty	RB	RB	RB	RB

NAME OF FACULTY : Roopa Balaveera

SIGNATURE :

SIGNATURE OF H.O.D.

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First Internal test

Q. No	Marks	CO	Q. No	Marks	CO	CO	Total
1(a)			3(a)			1	17
1(b)			3(b)				
1(c)			3(c)			2	27
OR			OR				
2(a)	2	1	4(a)	3	2		
2(b)	6	1	4(b)	6	2		
2(c)	9	1	4(c)	9	2	Grand Total	44/50
				5	9	2	

Second Internal test

Q. No	Marks	CO	Q. No	Marks	CO	CO	Total
1(a)			3(a)			3	26
1(b)			3(b)				
1(c)			3(c)			4	17
OR			OR				
2(a)	2	3	4(a)	2	4		
2(b)	6	3	4(b)	6	4		
2(c)	9	3	4(c)	9	4	Grand Total	43/50
				5	9	3	

Third Internal test

Q. No	Marks	CO	Q. No	Marks	CO	CO	Total
1(a)	2	5	3(a)	3	6	5	17
1(b)	6	5	3(b)	6	6		
1(c)	9	5	3(c)	9	6	6	27
OR			OR				
2(a)			4(a)				
2(b)			4(b)				
2(c)			4(c)			Grand Total	44/50
				5	9	6	

RS

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KSSEM

Dept. of Mechanical Engineering KSSEM

BLUE BOOK

Name of the Student: DHANRAJ.J

Class / Sem : 7th Sem **Branch:** M.E

USN : 1 K H 1 8 M E 0 0 3

SUBJECT : Total Quality Management **Subject Code :** 18ME734

MAXIMUM MARKS :

Test	I	II	III	Average Marks Obtained
Date	19/11/21	28/12/21	25/1/2022	23+10 = 33
Marks Obtained	22	23	24	
Signature of the Student	Dhanraj.J	Dhanraj.J	Dhanraj.J	Dhanraj.J
Initials of Room Supervisor				
Initials of Faculty				

NAME OF FACULTY : Harsha J

SIGNATURE :

SIGNATURE OF H.O.D.

K S SCHOOL OF ENGINEERING AND MANAGEMENT

First Internal test

Q. No	Marks	CO	Q. No	Marks	CO	CO	Total
1(a)			3(a)	4	1	1	17
1(b)			3(b)	4	1		
1(c)			3(c)	5	2	2	05
OR			OR				
2(a)	4	1	4(a)				
2(b)	5	1	4(b)				
2(c)			4(c)			Grand Total	22

Second Internal test

Q. No	Marks	CO	Q. No	Marks	CO	CO	Total
1(a)			3(a)			2	10
1(b)			3(b)				
1(c)			3(c)			3	13
OR			OR				
2(a)	2	5	4(a)	5	2		
2(b)	3	5	4(b)	2	3		
2(c)	3	3	4(c)	3	3	Grand Total	23

Third Internal test

Q. No	Marks	CO	Q. No	Marks	CO	CO	Total
1(a)	5	5	3(a)	5	5	4	14
1(b)	4	4	3(b)	5	4		
1(c)	5	4	3(c)			5	10
OR			OR				
2(a)			4(a)				
2(b)			4(b)				
2(c)			4(c)			Grand Total	24

Signature of the Staff